Philco Organization To Sell York Cooler

(Concluded from Page 1, Column 5)

Sales tie-up between Philco and York on room coolers may be considered as another step in an existing trend, Mr. Orth pointed out, since many Philco dealers already are merchandising room coolers of that make or another.

The agreement also provides York with an outlet through a nationally organized distributor-dealer set-up, he added.

A model of the "Cool Wave," a unit of ¾-hp. capacity, was on display in connection with the Michigan Philco organization's open-house showing for dealers in the Hotel Statler Monday and Tuesday. Most dealers visiting the display have expressed great interest in the room cooler, Mr. Orth said, and several sample orders have been placed.

Sales to dealers will be handled by the branch's regular radio sales field force at present, Mr. Orth said. Later, he added, a field force selling room coolers only may be organized.

Timken Introduces Room Cooler Line

(Concluded from Page 1, Column 3)

available for the past year to be installed in connection with Timken winter air-conditioning systems, the Timken air-conditioning room cooler is the first summer air-conditioning product to be marketed by the company.

Timken Silent Automatic has also announced a new low priced wall-flame conversion oil burner, known as the model F. The burner is rated at 575 sq. ft. of EDR steam, and has an oil rate of 5 to 10 lbs. per hour. The burner uses either No. 1 or No. 2 fuel oil.

According to Mr. Crawford, the new burner has all the features found in the larger and higher priced burners in the line. In addition, Timken engineers have perfected a new type motor and oil-distributor known as the "Mono-Rotor." Shaft of the Mono-Rotor is lubricated by fuel oil flowing through the burner.

Arthur Babson Tells Piping Contractors That Upturn Is Due For Summer's End

BOSTON—Improved business conditions "by the end of the summer" were predicted by Arthur C. Babson, director of the educational division of the Babson Statistical Organization, in an address before the forty-ninth annual convention of the Heating, Piping & Air Conditioning Contractors National Association, which closed here June 2. More than 300 members attended the three-day meeting.

"We are not pessimistic about the future," Mr. Babson told the convention. "By the end of the summer, men who own stocks are going to feel better.

HOPEFUL FACTORS

"The recent drop in prices already has laid the foundation for a strong recovery. In some of the consumer goods, the present rate of consumption is greater than production. The armament race will help the heavy goods industries. 'Pump priming' will help for the immediate future, but not for the long pull."

Volume of all construction this year, he predicted, will be about 10% below the total for 1937, with but little change in the total of residential construction.

OFFICERS ELECTED

George H. Dickerson, Chicago, was elected president of the association, succeeding H. M. Porter, Minneapolis. Frank E. Kise, Cincinnati, was named vice president, and William J. Olvany, New York City, treasurer. Elected to the board of directors were Mr. Kise, Mr. Olvany, J. E. McNevin, Denver; A. C. Rodoni, San Francisco; L. L. McConachie, Detroit.

The organization voted to hold its golden anniversary convention in Chicago next year.

Washer-Ironer Week Set For Oct. 23-29

CHICAGO—National washer-ironer week will be observed Oct. 23 to 29 under the sponsorship of the American Washing Machine Association, a group of sales managers representing member companies of the association decided at a meeting in the Morrison hotel here last week.

Educating the buying public to the value of complete laundry equipment will be the primary purpose of the campaign, first national special week in the history of the washer-ironer industry.

Special promotional material, including window display cards and wall posters, will be prepared for distribution to cooperating washer and ironer retail dealers throughout the country, the sales managers announced after their meeting.

It is expected that industries affiliated or connected with the washer-ironer industry will cooperate.

'Mystery Control' To Be Featured By Philco

CHICAGO — A newly developed "mystery control," which is scheduled to be the spearhead of the biggest advertising and promotional drive in the company's history, was presented last week to distributors of Philco Radio & Television Corp. as they convened here.

The new device, an entirely self-contained and readily portable unit which is separate from, but sold with, the radio itself, makes it possible for a person to dial any one of eight desired stations without going near the radio. Volume of any particular program also may be controlled.

This unit, effective at any point within 100 feet of the radio itself, is, in effect, a system of remote control for the radio.

Before being placed in service, each control is synchronized with the set with which it is to be used. This is said to make it possible for two sets in the same room to be controlled by their respective units without interference.

Two Philco models are being offered with the "mystery control," one priced at $159.95 and the other somewhat higher.

Announcement of the new unit, by Philco President Larry E. Gubb, was accompanied by an outline of the forthcoming sales and advertising campaign and a plea for action.

The coming campaign will be a flexible one and probably will make more extensive use of newspapers than did the one last year, according to E. B. Loveman, Philco advertising manager. Plans are as yet tentative, however, and will depend largely upon production, he explained.

"Both direct and cooperative newspaper advertising will be increased this year," Mr. Loveman predicted, with first insertions appearing in about five weeks. During the summer we expect to use several of the national weekly magazines, adding monthly magazines in the fall. A radio program also is being contemplated."

Despite emphasis on the new control, Mr. Loveman made it clear that this unit is not intended to eliminate the use of smaller, subsidiary radios. Both the new control and the small, auxiliary radio have something to offer, he explained, and neither ought to destroy the market for the other.

"Primarily," he stated, "the 'mystery control' is intended for sale to the so-called luxury market, which we still find to be a profitable outlet for many of our products."

Enforcement Delayed On Milk Cooling Proviso

HARRISBURG, Pa.—Enforcement of an order requiring Pennsylvania farmers to provide cooling systems, lighting, and cement floors in dairy barns has been postponed from June 1 to Sept. 1.

The three-month extension was granted to give farmers a "breathing spell," said Wilbur K. Moffett, director of the bureau of milk sanitation, who declared that many farmers had been "misinformed and duped" by some dealers' agents.

EVERYBODY KNOWS HOW DRY I AM !
I'M A HISSING HENRY
ABSO-DRY PRESSURE
SEALED DRYER
HEAR 'EM HISS-S-S!
ABSO-DRY PRESSURE SEALED DRYER
YOU'VE BOUGHT A GOOD PRODUCT, YOU'LL REMEMBER WHERE YOU GOT IT
ABSO-DRY
PRESSURE SEALED
D-E-H-Y-D-R-A-T-O-R
PRODUCT OF HENRY VALVE CO. CHICAGO, ILL.
I'm the only dryer that can really show how dry I am because when my end cap is loosened, I *hiss*. I'm vacuum dried and pressure sealed with dehydrated air, and Henry guarantees me to remain in factory-dry condition right up to the time you remove my end cap and install me in a system. I'm exclusive, yet I cost no more than ordinary dryers. There are no doubts about *my* drying value.
THE ABSO-DRY GUARANTEE
That Has Revolutionized The Sale of Dryers
"Every trace of moisture has been removed from this dryer by the exclusive Henry Vacuum Process. When the seal cap at the inlet end is removed, there is a hissing sound due to the escape of dehydrated air. This is your guarantee that the dryer has reached you in the same condition as when it left the factory and that original drying efficiency has not been impaired. *If this dryer does not hiss, your jobber is authorized to exchange it for a new one.*"
Ask Your Jobber
DRYERS
STRAINERS
FILTERS
HENRY
The New catalog 73 describes many additions to the industry's most complete line of dryers, strainers and large line valves. Contains timely and valuable supplementary information. Write today.
PROCESS PATENTS (Applied For)
COMPLETE LINE OF AMMONIA VALVES AND FORGED STEEL FITTINGS
HENRY VALVE CO.
1001-19 NORTH SPAULDING AVENUE • CHICAGO, ILLINOIS.
MOST COMPLETE LINE OF DRYERS STRAINERS AND LINE VALVES . . .

PERIODICAL

First Copy

PUBLIC LIBRARY
JUN 16 1938

Air Conditioning & Refrigeration News

The Newspaper of the Industry

Trade Mark Registered U. S. Patent Office. Established 1926 as Electric Refrigeration News
Member Audit Bureau of Circulations. Member Associated Business Papers.

Written to Be Read on Arrival

VOL. 24, NO. 7, SERIAL NO. 482
ISSUED EVERY WEDNESDAY

Entered as second-class matter Aug. 1, 1927

DETROIT, MICHIGAN, JUNE 15, 1938

Copyright, 1938, by Business News Pub. Co.

FOUR DOLLARS PER YEAR
TWENTY CENTS PER COPY

THE COLD CANVASS

By B. T. Umor

What'll They Think Of Next?

Increasing regimentation of our national economy apparently doesn't blight the flowering of American inventive genius. Recent news is full of inventions, screwball ideas, Goldberg contraptions, and genuine scientific advances.

Take, for example, the solar home appliances of Otto H. Mohr, who lives and invents in Concord, Calif.

It is reported that he runs his Electrolux by focussing a spot of sunshine on a vapor column, instead of utilizing the customary "tiny gas flame."

His cooking is done on a range which burns hydrogen gas. This gas he gets from water by decomposition —the sun supplying the energy. Three gallons of water a day supplies him with all the heating energy his house requires, or so he claims.

He also makes a solar water heater, which he is currently selling to friends and neighbors.

It all sounds marvelous, unless you live in a climate like Detroit's, where the sun's service is so interrupted and unpredictable that a household depending on solar power would be out-of-order most of the time.

* * *

New Ironer Use

Item No. 2:

With all this amateur camera fever sweeping the country, one must expect to hear a number of unusual happenings, but nevertheless this column was jarred a bit upon learning that Mrs. Paul D. Wilson of Danville, Ill. has found her flat-plate ironer valuable for drying photographic prints, in addition to its regular ironing and pressing duties.

"Drying large prints, particularly when double-weight material is used, is a very slow operation," says Mrs. Wilson. "By using lintless blotters on both sides of the wet photograph, the prints can be dried very quickly on the ironer.

"I usually use two or three blotters together, to give greater moisture absorption. The print is reversed several times, to prevent curling. During this drying operation, the thermostats on the heating elements are usually turned about half-way on."

Handling about 50 prints of 8-by-10 size an hour is no job at all with the flat-plate ironer, Mrs. Wilson tells engineers of General Electric Co., whose ironer she uses.

All of which should teach G-E appliance division engineers that, truly, wonders never cease. Because they might have begun to think the end of novel uses of their equipment was in sight, what with a fish stand using one of their washers to exercise trout to keep them from becoming flabby, a potato chip maker using another spinner model to wring the chips dry before frying, and a goat farmer in Connecticut who used a vaccum cleaner regularly on his horned and bearded flock.

Now G-E engineers expect to hear any day that the flat-ironer has been found useful in cracking lobster shells, without loss of heat or flavor.

* * *

An Engineer's Brainstorm

Just as a warning as to what an engineer is liable to be getting into if he gets a few minutes' spare time in which to project his mental squalls into a regular tornado of "ifs," we pass along to you the following and somewhat startling musings, credited

(Concluded on Page 3, Column 2)

ASHVE Mid-Year Meeting To Study Summer Cooling

HOT SPRINGS, Va. — Problems concerned with various phases of summer cooling will occupy much of the attention of members of American Society of Heating & Ventilating Engineers at their semi-annual meeting at the Homestead here June 20 to 22.

A broad program of entertainment for members and their families has been planned, including a golf tournament, tennis, and horseshoe contests, bridge and tea, and the annual banquet and dance.

Technical sessions will open on the morning of June 20, after committee meetings the previous day. Papers scheduled for presentation at this session include:

"A Test Method for Air Cleaning," by R. S. Dill; "The Flow of Air Through Exhaust Grilles," by A. M. Greene, Jr., and M. H. Dean; "The Condensation Nuclei Content of the Air as Related to Air Freshness," by R. A. Nielsen; "Study of Summer Cooling in the Research Residence Using a Small Capacity Mechanical Condensing Unit," by A. P. Kratz, S. Konzo, M. K. Fahenstock, and E. L. Broderick.

At the technical session on June 21, following papers are to be presented: "Heat Transfer Through Single and Double Glazing," by M. L. Carr, R. A. Miller, Leighton Orr, and Alan C. Byers; "Radiation and Convection from Surfaces in Various Positions," by G. B. Wilkes and C. M. F. Peterson; "Performance of Surface Coil Dehumidifiers for Comfort Air Conditioning," by G. L. Tuve and L. T. Seigel; "The Measurement of Heat Transfer by Free Convection from Cylindrical Bodies by the Schlieren Method," by L. M. K. Boelter.

Final technical session, scheduled

(Concluded on Page 20, Column 1)

Chicago Installations In May Set Record

CHICAGO — Air-conditioning contracts closed here during May totaled 114 installations, a new all-time high for the month, and an increase of 31% over the 87 installations made in May, 1937, reports Commonwealth Edison Co.

Total capacity of the 114 jobs, however, was 602 hp., as compared with 1,332 in May last year. Included in the May, 1938, sales were 85 room coolers, a big jump from the 10 units sold in May, 1937.

Last month's installations raised the total of air-conditioning systems in use or under contract in Chicago to 2,172, with an aggregate capacity of 72,818 hp.

Air Conditioning Makes Drug Store In Ozarks Town a 'Social Center'

ELDON, Mo.—Air conditioning has made the Carl T. Buehler drug store a sort of "social center" in this Missouri town of 3,000 people, in the Lake of the Ozarks region. And in addition to bringing increased business, it has provided relief for Mr. Buehler's asthma and his wife's and son's hay fever.

Mr. Buehler, Eldon's mayor and leading druggist, installed air conditioning for his family's comfort as well as for his customers' convenience. The installation required unusual engineering design, because of a mezzanine jutting out 20 feet into the 85-foot store.

Equipment was located in a rear room, and ducts extended under the mezzanine to cool the store. A built-in "head" was used on the ducts, to increase cooling range and lessen air velocity. Used in the job are a conditioning unit, two condensers, and a compressor.

Kelvinator To Start 'Crusade' In 22 Centers

'Sales Mean Jobs' Idea Launched On National Scale This Week

NEW YORK CITY, June 14—The National Salesmen's Crusade, Nash-Kelvinator Corp.'s contribution to the drive for better business and reemployment, was launched here and in 21 other key U. S. cities today (Tuesday) at a luncheon meeting in the Waldorf-Astoria, attended by important industrial and sales personages.

Similar meetings in the 21 cities starting the drive to bring back prosperity today were connected to the New York City meeting by a long-distance telephone hook-up. Fully 15,000 business and civic leaders in those cities witnessed the launching of the campaign for better times by America's selling people.

When George W. Mason, Nash-Kelvinator president, gave the word, salesmen representing all lines of endeavor in those 22 cities started out to work hard in supporting the campaign's simple fundamental: that systematic selling effort can bring about sales of products today, and that inspired salesmen can do much to help America's unemployed again find places in industry and business.

Idea of the crusade, slogan of which is "Sales Mean Jobs," was tested at Lincoln, Neb., last month under the leadership of Nash-Kelvinator executives, who went out and worked as retail salesmen to prove their contention that there are still buyers today.

With all Lincoln's business houses joining as partners in the drive, it was found that the crusade idea not only inspired salesmen to greater effort, but also stimulated buyer interest to such a point that many Lincoln firms reported notable sales increases both during and after the one-week test.

Speakers at today's inaugural luncheon in the Waldorf-Astoria, besides President Mason, included such

(Concluded on Page 3, Column 1)

Amer. Injector Cooling Sales Under Kellie

DETROIT—Appointment of Edward Kellie as sales manager of the refrigeration appliance division of American Injector Co. has been announced by H. B. Trix, president of the company.

For the past four years, Mr. Kellie has been chief of development and engineering for American Injector, and, according to Mr. Trix, has been responsible for many refinements in design of American Injector products.

Mr. Kellie has had a wide background of experience in both the theoretical and practical sides of the industry. Following training in the

(Concluded on Page 20, Column 5)

Laidley Is Elected Vice President Of Standard Electric

TOLEDO—H. D. Laidley has been elected vice president in charge of all sales and a director of Standard Electric Mfg. Co., manufacturer of electric and gas ranges, officials of the company announce.

Mr. Laidley came to Standard from Brunswick-Balke-Collender Co., where he had been general manager of the appliance division, handling national merchandising of Brunswick's "Blue Flash" table-top electric refrigerators. He had charge of organizing Brunswick's refrigeration sales in the smaller cities, and of building a national sales organization.

He joined Brunswick in April, 1937, after he had spent almost five years in retirement at his home in Beverly Hills, Calif.

(Concluded on Page 3, Column 1)

Philco Purchase Of York Corp. Denied

YORK, Pa.—The rumor circulated in the industry that Philco Radio & Television Corp. had purchased a controlling interest in York Ice Machinery Corp. was flatly denied last week in an official statement by the York corporation.

In reply to inquiries made by AIR CONDITIONING & REFRIGERATION NEWS, the following telegraphic reply was received from Paul Wassmansdorf, director of public relations for York:

"Absolutely no grounds for Philco rumor. Expect to release statement shortly explaining basis on which false rumor arose."

The rumor probably received some credence in industry circles following the recent announcement of a sales hook-up between Philco and York whereby Philco radio dealers will undertake distribution of a single York room cooler model.

Utility Sales 'Unfair' Newark Dealers Told

NEWARK, N. J.—Merchandising of electrical appliances by public utility companies was cited as "a glaring example of unfair trade" by John Eyre Sloan, of West Orange, president of the Smaller Business Council of New Jersey, in an address June 10, before the Radio & Electric Appliance League in the Newark Athletic Club.

Mr. Sloan, New York City bond investment broker and son-in-law of the late Thomas A. Edison, said that utility companies held a great advantage over independent appliance merchants in selling appliances, because of their frequent contact with gas and electricity users.

He also went on record as opposed to "no down payment" instalment selling of appliances, and declared that length of time payment contracts also should be kept within reasonable limits.

Demonstrations Are 'Hits' & Sales Score 'Runs' In Toledo Dept. Store Refrigerator Contest

TOLEDO—In a novel contest in which sales were "runs," demonstrations were "hits," and each three selling days were an "inning," the appliance department of Lamson's department store here capitalized on the interest attending the opening of the baseball season to score a decided increase in electric refrigerator sales, reports D. R. Nighswander, department manager.

The eight salesmen in Lamson's appliance department each were assigned a position on the "team," and were shown in their positions on a "baseball diamond" drawn by Mr. Nighswander on a 3 x 6-foot canvas. Quotas, in terms of "batting average," were assigned each player before the contest's start.

To impress upon each salesman the importance of "playing ball" during the "game," miniature souvenir baseball bats were handed out to each man at the meeting at which the contest was announced. The contest ran through 27 selling days, so

(Concluded on Page 2, Column 1)

Westinghouse Moves Against 'Courtesy' Price

Distributors Join With Manufacturers In Stating Policy

HOT SPRINGS, Va.—Opposition by both Westinghouse Electric & Mfg. Co. and its distributors to the giving of "courtesy discounts," as a practice unfair to the consuming public, was voiced in a resolution adopted at the twenty-sixth annual meeting of the Westinghouse Agent Jobbers' Association, held here May 27-31.

The resolution, aimed at clarifying the stand of both Westinghouse and its distributors regarding price concessions to friends and business associates, was presented by H. M. Moock, president of Moock Electric Supply Co., Canton, Ohio. It reads as follows:

"Whereas, the merchandising division of the Westinghouse Electric & Mfg. Co. has stated its policy definitely opposing the giving of courtesy discounts,

"Now, therefore, be it resolved that the Westinghouse Agent Jobbers' Association, in convention assembled, endorses this statement of policy, and urges its members individually and collectively to subscribe to it and use their best efforts to enforce it in their individual territories."

Announcement of the manufacturer-distributor discount policy was made by J. S. Shaw, vice president of Moore-Handley Hardware Co., Birmingham, Ala., and president of the jobbers' group.

"We are, and have always been, opposed to price concessions of this type," Mr. Shaw told the 125 members attending the meeting. "'Courtesy discounts,' or special price concessions to friends and business associates, are manifestly unfair to the consuming public.

"Moreover, were such a practice allowed, it would completely demoralize our dealer organization. If purchases direct from the jobber or manufacturer were permitted, it would simply be taking business from the dealer that he is rightfully dependent upon."

Westinghouse's attitude regarding discounts was outlined by R. E. Imhoff, sales manager of the merchandise division.

At the close of the merchandising session, Mr. Imhoff presented awards to the members of the sales and

(Concluded on Page 20, Column 4)

N. Y. Radio Distributors Pledge Price Control

FLUSHING, N. Y.—Price maintenance on 1939 radio set lines under terms of New York's Feld-Crawford fair trade law was pledged by nine radio distributors in the metropolitan New York area at a meeting last week sponsored by the Electrical Appliance Merchants' Association of Queens, Inc., in the Blue Fair restaurant here.

Distributors who assured the 75 dealers present that they would enforce price control provisions on all their 1939 radio merchandise were:

Emerson Radio & Phonograph Corp. (Emerson); R. W. McMann (Westinghouse); General Electric Co. (G-E); Bushwick-McPhelben (Sparton); Wholesale Radio Equipment Co. (Stewart-Warner); Bruno-New York, Inc. (RCA); Philco Radio & Television Corp. of New York (Philco); Colen-Gruhn Co. (Zenith); and Gross Sales, Inc. (Stromberg-Carlson).

C. Rook Schimpf, chairman of the

(Concluded on Page 20, Column 1)

Profitable Sales Ideas

Prospect Cards Are Hits, Sales Are Runs As Ball Game Contest Spurs Salesmen

(Concluded from Page 1, Column 4)

that a full "nine-inning game" could be played.

Rules of the contest, as set up by Mr. Nighswander, were:

Each sale made counted one run.

Each prospect brought into the store for a demonstration counted one hit.

Four hits counted one run—provided that one of the four was a sale, making an extra run for that contestant.

If five hits were registered without a run (sale), an error was scored against that contestant.

Each error made deducted a run from that contestant's score.

Three selling days counted as an inning.

CLOTHES AS PRIZES

First prize in the contest was a suit of clothes; second prize, a hat and a pair of shoes; third prize, shirt, tie, and socks; fourth prize, a shirt; and fifth prize, a book on salesmanship.

Hits and runs scored by each salesman were kept secret until the close of the inning, so that only the individual salesman and Mr. Nighswander knew how he stood until the inning was over. Hits were registered by prospect cards, and counted only when given to the sales manager at the time the prospect was brought into the store for a demonstration.

Salesmen were given a week's protection on all hits, so that they could attempt to convert them into runs. Each salesman was expected to register at least one hit every day.

To make it easier for salesmen to fatten up their "batting averages," each man was given a definite user call for his first call every morning—a different user every day of the contest.

In following up leads from users, salesmen were instructed to tell the housewife that they had nothing to sell, but that they understood she was interested in an electric refrigerator, and had called to familiarize her with electric refrigeration.

Whole effort of the call was to induce the prospect to call at the store for a demonstration, so that she could see the refrigerator for herself and at the same time check up on the accuracy of the story the salesman had told her.

ARGUMENT PER DAY

At each morning meeting, salesmen were given a new argument to use in showing the advantage of calling at the store for a complete demonstration.

Interest in the contest, from the standpoint of both salesmen and prospects, was great, Mr. Nighswander says. As the contest progressed, salesmen brought customers into the department and explained the contest to them; in many cases, the customer entered into the spirit of the "game" and suggested other prospects from which the salesman might at least score a hit.

Results of the contest fulfilled all expectations, Mr. Nighswander says. Salesman winning first prize averaged a sale a day during the 27 days of the "game;" second high man made 16 sales.

Crosley Models Shown At Union Exhibition

CINCINNATI — An exhibit in which a Crosley mechanical condensing unit operated four Crosley refrigerators, freezing ice and maintaining proper cabinet temperatures in all four, was a feature of Crosley booth at the first National Union Label and Industrial Exhibition in Music Hall here.

Recording thermometers placed on each of the cabinets, told visitors the exact temperatures being maintained inside the units.

Attendance at the show was estimated at 200,000 people, greatest in Music Hall history.

A 'Selective' Method Of Prospecting Keeps Fishers In the Black

INDIANAPOLIS — Select your prospects carefully, contact them personally, and—above all—sell them while they're hot.

This, briefly, is the sales creed of Ralph B. Fisher who, with his brother, operates an electrical service shop and major appliance dealership here under the name of Fisher Bros.

By following this simple sales formula, Mr. Fisher sold 50 appliances (including electric refrigerators, ranges, water heaters, washers, radios, sweepers, dishwashers, and waste disposal units) during the month of April alone. And what's more, half of these sales were for spot cash.

One cash order totaling $820 went to a single family. This sale included an electric refrigerator, range, water heater, radio, and washing machine. Three similar sales were made by Mr. Fisher during 1937, the orders including this same group of units with dishwashers and waste disposal units added.

HIS RECORD

Speaking of 1937 sales, Mr. Fisher last year sold a total of 259 major appliances. This total was composed of 178 refrigerators, 50 electric ranges, 15 washing machines, 10 water heaters, and six ironers. In addition to this, he also accounted for a number of lesser appliance sales.

By "selecting" his prospects, Mr. Fisher means attempting to sell only those people whom he knows can afford to buy. And many such people still exist, he maintains, despite all the woeful tales one hears of depressions, recessions, and hard times. There are always people, he insists, who still have good incomes, who have cash in the bank or under the family mattress, and who can and will buy appliances if you show them that possession of the product will do them more good than possession of the money.

'PROSPERITY' ARGUMENT

Besides, Mr. Fisher argues, $200 spent now on a major appliance provides work for others and advances prosperity in general, thus, in the end, benefiting the person who originally purchased the appliance.

"Price cutters," says Mr. Fisher, "should not bother either the salesman or the purchaser of quality merchandise. There always will be a class of people who will buy cut-rate merchandise, and a type of merchant who will supply it. So the simplest solution is just to forget this phase of merchandising entirely.

"Salesmen who are whipped by price-cutting should make an effort to rise above the level of the customers who patronize price-cutting dealers, and should concentrate their efforts on those people who are ready, willing, and able to pay good prices for good merchandise."

Mr. Fisher has found this class of prospects and customers so large that he figures that, in the normal course of his business life, he never will be able to contact every high-grade prospect in his own trade territory.

PERSONAL CONTACT

Now about this personal contact angle. Approximately 75% of Mr. Fisher's sales are closed in the prospect's home, the remainder in the salesroom. Mr. Fisher makes no home demonstrations, however, does not make use of the telephone in seeking new contacts, and scarely advertises at all.

Though Mr. Fisher makes a considerable number of sales in the store's salesroom, where strong lighting and carefully arranged displays help to weaken the prospect's sales resistance, he much prefers to visit prospects in their homes, where he can explain the merits of his merchandise at the point where it is to be used. In this way, the prospect is able to visualize just exactly where the equipment will be placed, and exactly what household tasks it will perform.

Quick action and quick thinking in meeting objections are important elements in Mr. Fisher's sales method.

WASTES NO EFFORT

He wastes no effort, but goes straight from one likely prospect to another. Calling only on people he knows can afford to buy, he first points out the need for the latest and best electrical appliances in the home. Then he points out the advantages of this equipment, following this argument with a forceful and factual talk on economy, safety, and operating efficiency.

Mr. Fisher closes most of his sales within an hour. His most prolific source of prospects is the list of satisfied customers which he has built up. These customers are continually advising him of friends who are interested in purchasing some appliance. But time is still the most important factor, he believes, in any appliance selling policy.

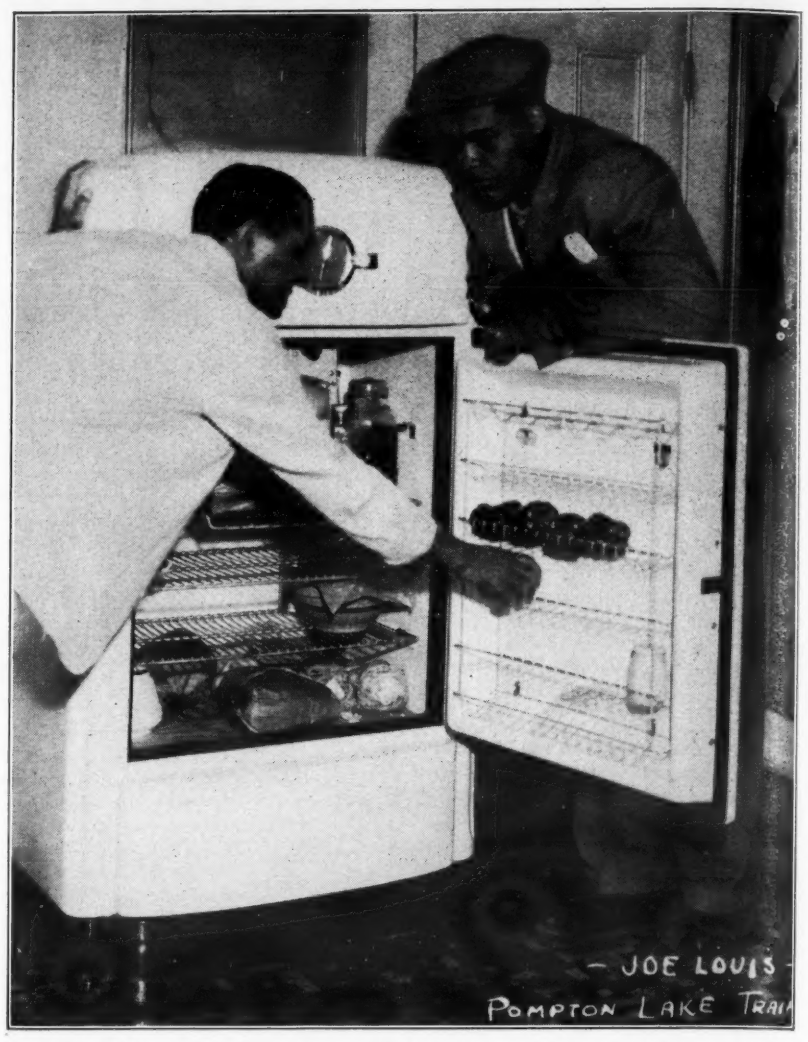
'GET 'EM EARLY'

"Whenever you get on the track of a live prospect," he warns, "call on this prospect immediately—just as soon as you can get the name and address. Delay in seeing a prospect loses many otherwise sure sales. If you can't see the prospect during the day, make a night call. But whatever you do, make the call and make it quickly, for tomorrow may be too late.

"There is not only the ever-present possibility of another salesman getting to the prospect first, but there also is the danger that, for any one of a number of reasons, the prospect's enthusiasm may wane."

So if you want to boost your sales average, just try this formula: pick your prospects carefully, and "hit" them quickly.

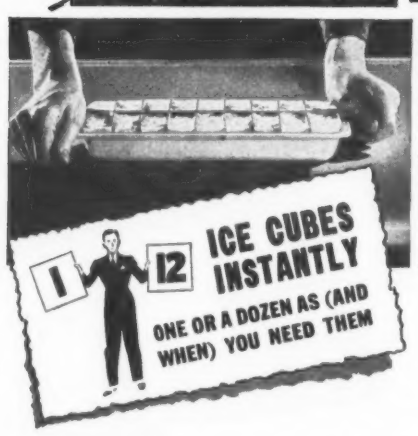
Is Joe's Mind On the Food or the Music?

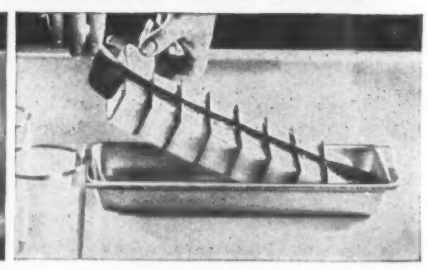


Heavyweight champion Joe Louis listens to the musical Crosley refrigerator installed in his training camp by Apollo Distributing Co. of Newark. Wonder if Joe's depending on those red peppers in the Shelvador to supply him with the fire to beat contender Max Schmeling.

KEROTEST
Valves and Fittings
The Standard of the Industry
Kerotest Manufacturing Co.
Pittsburgh, Pa.

THE VERDICT IS—
PRESTO ICE TRAY





It's the unanimous verdict of refrigerator users that the greatest need for ice cubes is on those frequent occasions when one, two, or three persons want a few ice cubes in a hurry.

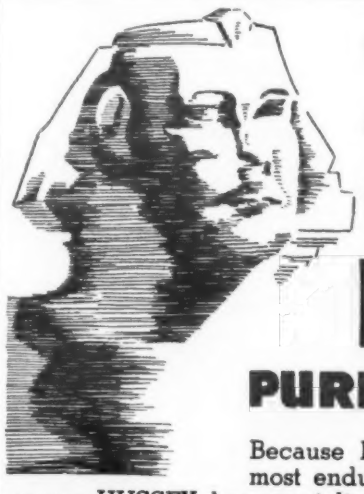
And it's the unanimous verdict of Presto Tray users that *only* Presto Tray *with rubber grid* gives one or a dozen cubes instantly, full-sized, cold and dry, without disturbing the others—without fuss, bother, or waste.

So, to influence a favorable verdict in favor of your refrigerator, have your salesmen demonstrate conclusively—and quickly—how the Magic Finish Presto Tray with Rubber Grid gives all the advantages of a fast-freezing metal tray *plus all the conveniences of a rubber grid.*

If you have not already done so—be sure and insist that your new refrigerators come factory-equipped with Magic Finish Presto Ice Trays.

INLAND MANUFACTURING DIVISION
General Motors Corporation Dayton, Ohio

WHEN A FEW ICE CUBES ARE PLENTY— DON'T RAID A TRAYFUL—USE
PRESTO ICE TRAY *with Rubber Grid*



THE MOST ENDURING AIR CONDITIONING SYSTEMS ARE MADE OF GENUINE
HUSSEY
PURE LAKE COPPER

Because Pure Lake Copper is recognized as the most enduring form of copper obtainable and because HUSSEY has specialized in the production of this outstanding type of copper for 90 years, HUSSEY has become preferred by quality-minded copper buyers everywhere.

Due to its unusual corrosion-resisting quality, HUSSEY PURE LAKE COPPER is ideal for the manufacture of Air Conditioning equipment such as Housings, Air-Washers, Blowers, Coils, Ducts, etc.

Would you like a copy of the latest Hussey Catalog?

C. G. HUSSEY & COMPANY
Division of Copper Range Company
General Offices and Rolling Mills: PITTSBURGH, PA.

Copper HUSSEY Brass

How to Get RELIABLE Temperature Records

• You know how important temperature records are for test or installation work. But do you know about Practical recording thermometers? Endorsed by servicemen and engineers. Used in air conditioning, refrigeration, and heating. Unusually low priced. Sturdily built. Guaranteed. Give dependable records. Completely portable and self-contained. 7½ in. high. Get complete information.

15 DAY TRIAL: Act at once! Ask your jobber; or write to us for prices, description, guarantee, and 15 day trial terms. Ask for the "1938 OFFER." Address: Practical Instrument Co., 2717M N. Ashland, Chicago.

PRACTICAL Recording Thermometer

With Range Firm

H. D. LAIDLEY

* * *

Standard Electric Names Laidley Vice President

(Concluded from Page 1, Column 4)

Mr. Laidley first achieved prominence in the electrical field during his 12-year association with General Electric Co., last nine years of which were spent as general manager of the federal division of the National Lampworks, Chicago.

He also was co-organizer of R. Cooper Jr., Inc., General Electric distributor in Chicago, and was for four years vice president and a director of the company.

In 1930, Mr. Laidley went to Portland, Ore., where he organized the Laidley Co. as distributor of General Electric appliances in that area.

'Salesmen's Crusade' Starts This Week

(Concluded from Page 1, Column 3)

prominent business figures as James G. Blaine, president of Marine Midland Trust Co. of New York and member of the boards of several important U. S. corporations; Merle Thorpe, editor of Nation's Business; Richard W. Lawrence, president of the Chamber of Commerce of the State of New York; Gene Flack, trade relations counsel of Loose-Wiles Biscuit Co.; Dana Cole, president of the Lincoln, Neb., chamber of commerce; and H. W. Burritt, vice president in charge of sales.

The 21 cities in which similar meetings were held, and at which proceedings of the New York City meeting were reproduced by long-distance telephone, are: Albany, N. Y.; Baltimore; Boston; Charleston, S. C.; Charlotte, N. C.; Denver; Fresno, Calif.; Hagerstown, Md.; Hartford, Conn.; Lancaster, Pa.; Manchester, N. H.; Newark, N. J.; Philadelphia; Portland, Me.; Poughkeepsie, N. Y.; Providence, R. I.; Roanoke, Va.; Seattle; Syracuse, N. Y.; and Williamsport and York, Pa.

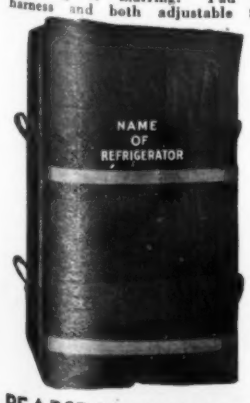
A score more cities across the continent, including Chicago and Detroit, will open their campaign for more jobs through more sales on next Tuesday, June 21, with the key meeting scheduled for Chicago and the other cities listening in through a long-distance hook-up.

A third key meeting, connected by telephone with crusade gatherings in close to 30 other cities, is set for Milwaukee on June 23.

MASTERCRAFT

ADJUSTABLE PAD AND CARRYING HARNESS

The most efficient and economical equipment made for handling refrigerators safely and without scratching or marring. Pad is separate from harness and both adjustable to all styles and sizes of cabinets. Efficient, sturdy, easily and quickly applied. Name of refrigerator attractively lettered on pad without charge.



Adjustable Pad, **$9.50** each

Adjustable Harness **$6.00** each f.o.b. Chicago.

Write for 1938 folder and prices on pads for refrigerators, washers, ironers, ranges, radios, etc.

Pat. Appl'd for

BEARSE MANUFACTURING CO.
3815-3825 Cortland Street, Chicago, Illinois

THE COLD CANVASS

By B. T. Umor

(Concluded from Page 1, Column 1)

to Engineer George Rhine of San Antonio (Tex.) Public Service Co.:

"The refrigeration capacity of the air-conditioning installation in our main office has the cooling equivalent of the melting of 11,666 pounds of ice per hour of operation, or the equivalent of 145,825 pounds of ice for an average summer's day operation. To make a more modern comparison, the system has the combined cooling capacity of 1,400 average electric refrigerators.

"If we were to air condition the whole outdoors of the city of San Antonio within the city limits and to a height of 500 feet above the ground, the total refrigeration capacity would be approximately 14,000,000 tons. The electric load would be approximately 12,000,000 hp.

"The installation price of such an air-conditioning system would be in the neighborhood of $2,800,000,000, and would bear a straight operating cost of nearly one million dollars per hour of operation for power and labor."

Give up? We can't help feeling that Mr. Rhine ought to devote his spare time next week to figuring out how much beer it would take to fill up the Grand Canyon on a WPA project, counting time off for good behavior. But on second thought, no. Harry Hopkins might hear of it, and get ideas.

* * *

Mental Thermostat Controls Body Heat

Nature's wonders continue to amaze us all. Now scientists have discovered an electric thermostat in the brain, which automatically governs body heat through both winter and summer.

This thermostat was detected by stimulating the brain with high-frequency radio waves on various regions of the skull. In this way, they found, they could cause human beings to sweat and speed up respiration under cold conditions, or to chill and shiver in a heated room.

With the hands and feet acting as the regulators of heat and cold sensations, and the brain acting as a thermostat, it seems that nature has done a pretty fair job of "conditioning" mankind and enabling him to get along with as little discomfort as possible under 'most any condition.

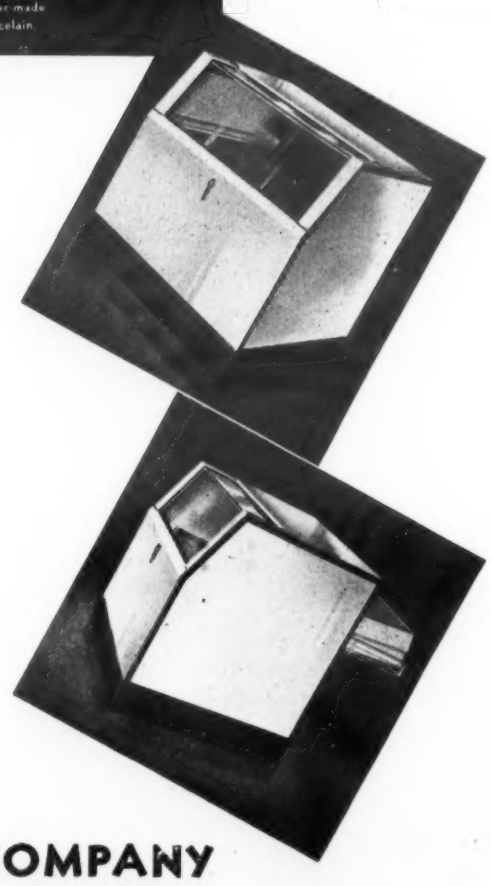
About all the air-conditioning engineer or contractor can hope to do, it appears, is to help nature along with its temperature-regulating job as much as possible . . . maybe by doing something about the attack of cold feet lots of prospects get when they learn what an air-conditioning job's going to cost them.

With all its wonders, science hasn't been able to do a thing about overcoming acute paralysis of the pocketbook.

LINDERME
SEAMLESS TUBING
Sealed AND Dehydrated
LINDERME
TUBE COMPANY
CLEVELAND · OHIO, U.S.A.

THE NEW SEEGER HANDY-ANDY CASE

it's SEEGER-MADE all-porcelain



HANDY-ANDY, SMART, NEW SPOT DISPLAY COUNTER, designed to fit between or at the ends of Seeger Display Cases. Provides an exceptional display for Fish on Friday, Broilers on Saturday, Cheese and other specialties every other day in the week. *Write for Specification Folder.*

Seeger
REFRIGERATOR COMPANY
SAINT PAUL MINNESOTA

NEW YORK BOSTON CHICAGO LOS ANGELES PHILADELPHIA SAN FRANCISCO

DISTRIBUTORS IN PRINCIPAL CITIES

Specialty Selling Methods

Contacts On Service Calls & Unit Kitchen Display Build Sales For Young Cleveland Dealership

CLEVELAND — Prompt, all-round service and a unit kitchen display are the two main factors to which Lyman B. Holt and James F. Downey, co-owners of the Downey & Holt General Electric store near the Cleveland Municipal Airport, attribute most of the sales which they have made since forming the dealership last December.

However, the secret of success, in Mr. Downey's own words, is "Work! Work! Work!"

The unit kitchen, greatest selling tool of the company, is installed on the sales floor, and contains, in addition to cabinets, wall cupboards, and other kitchen appurtenances, a General Electric refrigerator, dishwasher, Disposall, range, toaster, mixer, and, off in a corner just to one side of the kitchen, a washing machine.

HUNT FOR A BULB

Two thirds of the dealership's sales have been made to prospects first contacted on service calls, Mr. Downey states. As an example of how service is turned into sales, he tells of a hunt he made for an unusual light bulb.

A woman came into the store, Mr. Downey relates, and wanted a light bulb, just like the one she brought in broken. It was an odd style, and Mr. Downey spent half a day hunting for a duplicate in various stores.

Finally he got one, paid $1.20 for it, took it to his customer. She didn't have change, and said she'd call back later with the money.

When she did come, she brought her husband, and while they were in the store Mr. Downey sold them an electric range.

Downey & Holt salesmen "talk up" service whenever they go out cold canvassing, explaining to prospects that they are ready to deliver and replace lamps, repair or service any appliance, give kitchen advice, and put in fuses.

Cooking schools are held every two weeks in the store, only range prospects being invited and the attendance limited to 50, Mr. Downey states.

WIFE IS DEMONSTRATOR

To promote ironers, Mrs. Holt cooperates by ironing her personal laundry on a G-E Flatplate ironer in the store window every Saturday morning. The laundry, Mr. Downey explains, is done by a company to which he sold an electric range.

Mrs. Holt also acts as a salesman, and sells much of the store's quota of ironers and washing machines.

Each of the eight men on the Downey & Holt sales force has a monthly quota, and records of their daily accomplishments are posted on a wall chart.

Business is good and bad, Mr. Downey asserts, explaining the paradox by saying that it is good right now, but bad compared with what it's going to be in a few months.

Sales meetings of the entire staff are held every morning, and product meetings, formerly held once a week, are now being held twice a week, Mr. Downey states. At the latter, an appliance specialist is invited to address the men.

Mr. Downey and Mr. Holt both came from the Schenectady organization of A. Wayne Merriam, Inc., General Electric distributor. A two-year "Topper," Mr. Downey in 1937 was the leading G-E distributor retail salesman in the country. Mr. Holt has been among the leading "Toppers" for the past seven years, and in one year was the top "Topper."

All Outside Selling Done By Dealer Alone

LANSDALE, Pa.—With sales volume on electric refrigerators running ahead of last year's figures, William Weikel, Weikel Electric Co., has demonstrated that the dealer who does not succumb to the "depression blues" can still do a profitable volume of business.

"So far as employment conditions are concerned," Mr. Weikel said, "our territory is in no better condition than most others. The salesman meets the low income objection everywhere, but this does not mean that people refuse to buy. It is merely a matter of showing them that their small income will go further if they do buy."

Mr. Weikel does all the outside selling personally, having found this more satisfactory than employing outside salesmen. He sold 70 refrigerators last year as well as a number of other appliances.

"The reason I do not employ outside salesmen," he explained, "is that many people in this area like to talk with the owner of the business before they buy. All the salesmen we have had were unable to close sales. They could run up a good list of prospects, but when it came to closing a sale I was always called on to do the job. Under this plan I was spending all my time doing the closing for other salesmen, and in the end I had less profit than by doing the entire selling job myself."

Another Lansdale dealer who established an all-time high for refrigerator volume last year is the Lansdale Sports & Electric Co., selling more than 300 G-E units. This firm reports volume this year slightly below last year's figures, but is optimistic regarding sales possibilities for the last half of the year.

This firm employs one man who does nothing but cold canvassing to develop leads.

Using only one man to find leads has been an inexpensive method, and has enabled the firm to have sufficient new leads for the salesmen to replace names of prospects who have bought or are definitely out of the market for a certain time.

Value To Dealer In 'Ensemble Selling' Of Kitchen Appliances Outlined By Irving Clark

EDGEWATER PARK, Miss.—How modern kitchen merchandising, involving the sale of complete all-electric kitchens as units, is rapidly developing as one of the most valuable sources of sales in the appliance industry, was outlined by Irving W. Clark, manager of the kitchen planning section of Westinghouse Electric & Mfg. Co., in an address before the recent fifth annual conference of the Southeastern Electric Exchange here.

Kitchen merchandising is following the same channel as have bathroom merchandising by the plumbing industry and living room, dining room, and bedroom merchandising by the furniture industry, Mr. Clark said.

"The goal of complete kitchen sales as the rule and not as the exception," he stated, "is not far distant. That the industry may take full advantage of this fundamental trend, we should inaugurate the following program:

PROGRAM FOR DEALER

"1. Increase our sales training efforts along ensemble or horizontal lines.

"2. Spare no effort in making our sales and service personnel 'kitchen merchandising conscious.'

"3. Install on our sales floors the necessary sales tools, such as demonstration kitchens, promotional material, sales helps to do the job.

"4. Make available a practical planning service to our customers and sales personnel.

"The investment in this service will return profitable results in merchandise sales, load building, and better customer satisfaction."

In tracing the expansion of unit kitchen sales by Westinghouse since 1935, Mr. Clark said that sales reported per kitchen plan averaged 0.7 pieces of major equipment in 1935, 1.6 pieces in 1936, and 2 pieces in 1937.

Though excellent evidence of concrete results, Mr. Clark pointed out, these figures do not represent the entire picture, because much equipment was sold from unreported kitchen plans, and more equipment was sold through the use of the complete kitchen story without the use of drawn plans.

"There is a very definite reason for the growth of this activity," asserted Mr. Clark. "It is the application to the electrical merchandising field of the fundamental trend of ensemble selling and purchasing."

LOCATION IMPORTANT

Saying that in the past too little heed has been given by sellers of appliances to the needs of the purchasers and to the convenience of properly located appliances, Mr. Clark told the utility representatives that kitchen planning is one of the best methods of protecting customer relationship and increasing customer appreciation of the value of electricity in lightening kitchen duties.

"There are many of you who, I am quite sure, are still saying, 'We have done a good job of merchandising individual units. Why change? Why try something new?'

"Kitchen merchandising is not new or untried; it is simply applying to the electrical merchandising industry principles that have been used and tried in other industries with amazing results."

Mr. Clark referred to the furniture and plumbing industries as the outstanding examples for having sold the public on unitized living rooms, bedrooms, and bathrooms.

When a customer goes into a furniture store to buy a single article of furniture, such as an easy chair, Mr. Clark said, she is shown anywhere from one to a dozen or more completely furnished living rooms, thus being exposed to the idea of buying a complete room of furniture.

When a customer enters an appliance store to buy a refrigerator, however, she very often is shown up and down long aisles of refrigerators, ranges, and washing machines, he pointed out.

DISPLAY NECESSARY

Unit kitchen displays are rapidly replacing individual appliances on sales room floors, Mr. Clark implied.

Another reason for increased activities in the kitchen merchandising field, Mr. Clark indicated, is that a new residential building program is booming and is being looked to as the "bell cow" of business revival.

"The complete electric kitchen is our logical, natural approach to this very important market," declared Mr. Clark. "Authorities estimate that 600,000 housing units are needed per year in this country. Adding the accumulated shortage of dwelling units, it is indicated that there is a potential demand for 8,000,000 dwelling units in the next 10 years.

"It is further indicated that better than 50% of this potential, or over 4,000,000 housing units, actually will be built as a minimum.

"Already we have in the Modern Kitchen Bureau, and the ever-increasing number of local bureaus, a vehicle of the first rank to assist our individual efforts in cooperating with industry, to attack this new market."

FUNCTION OF BUREAUS

These bureaus, Mr. Clark said, will be clearing houses for building industry problems and will serve to correct ills and difficulties within the industry.

"Kitchen merchandising holds for all of us unlimited potential," Mr. Clark concluded. "It improves our position in the modernization market; it opens the door to the new building market; it gives us the vehicle for making merchandise sales through the method of true service selling. It will sell more merchandise, it will build load, it will build better customer relationship."

Salesmen Call Back After Losing Sale

HUTCHINSON, Kan. — Friendly call backs after making sales, or even after losing sales to rival dealers, have earned for Wiley's department store here public goodwill which aids materially in fostering future business.

When a customer purchases any major appliance sold by Wiley's, her name is placed on the "call list" of the salesman who made the transaction, and within 10 days or two weeks he calls at her home to inquire how the appliance is performing.

He brings a gift from Wiley's of three white mixing bowls, offers to try to correct any troubles of performance in the appliance, and, on leaving, leaves his personal card with this invitation:

"If you need me, call me personally. If you have a friend or neighbor who would like to know about our appliances, won't you get in touch with me?"

Even when a prospect buys an appliance from another store, the unsuccessful Wiley salesman makes a friendly call and says:

"I understand you have bought the . . . refrigerator. I'm glad you got a refrigerator, and I hope it will meet your expectations in every way. Come in the store. Keep in touch with us. We're still friends."

This leaves the prospect and the salesman in a pleasant, friendly state of mind, and helps pave the way for future sales.

To satisfy customers like yours, this insulation was invented

Your reach-in and walk-in cooler customers want the least possible month-to-month refrigeration expense. However, the only way to keep refrigerating cost low is to give adequate insulation protection. It was to fill the need for an efficient refrigerator insulation that Dry-Zero was invented.

Minimum Operating Cost

Insulation saves refrigeration by warding off heat. How effectively a given insulation wards off heat is measured in Btu's (British thermal units). Independent authorities, such as the U. S. Bureau of Standards, have given Dry-Zero the remarkably efficient rating of .24 Btu..

This means that you offer customers minimum refrigerating expense when you use Dry-Zero for insulation.

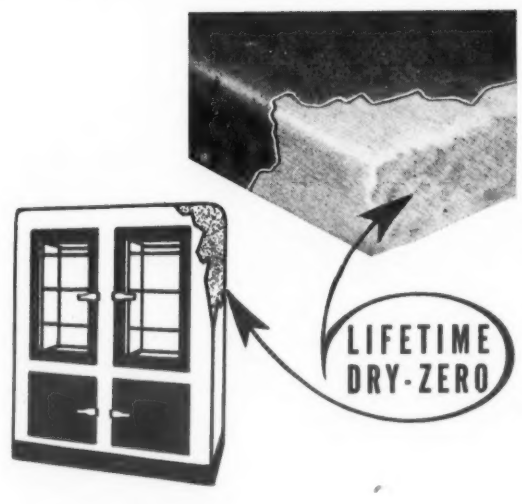
Lasts for a Lifetime

Another factor in refrigerating cost is the effective length of life of the insulation..

Hidden away in heavy walls, the insulation may seem secure from damage. But, water vapor inevitably enters the insulation space. If this water vapor soaks the insulation, the insulation efficiency is destroyed.

Numerous tests plus years of refrigerator experience show that Dry-Zero repels moisture and does not become water soaked. Reports from numerous manufacturers of refrigerators, refrigerated motor trucks, and railroad refrigerator cars attest this fact. Of course, this means that the original thermal efficiency of Dry-Zero lasts for life.

Investigate Dry-Zero insulation today. Write for a free copy of the factual booklet, "Fundamentals of Good Refrigerator Insulation."



USED BY MILLIONS — Dry-Zero insulation has been used in millions of household refrigerators, in thousands of refrigerated motor trucks, and in 9 out of 10 new railroad refrigerator cars. Dry-Zero insulation has been taken from railroad refrigerator cars 12 years old and used over again in new cars. It has been removed from obsolete motor trucks and put into new ones. Repeated laboratory tests show that Dry-Zero repels water and rot and fungus growths; it will never develop smells; nor will it sag down into useless lumps. This evidence is proof of its durability and continued high insulating efficiency over long periods of time.

Let Dry-Zero engineers cooperate on the insulation of your refrigerators and show cases. They can advise on the best insulation procedure for any type of construction or any needed temperature requirements. There is no obligation for this service.

Write for sample

DRY-ZERO REG. U. S. PAT. OFF.
INSULATION
The Most Efficient Commercial Insulant Known

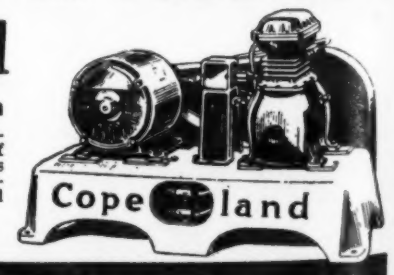
DRY-ZERO CORPORATION • CHICAGO • TORONTO

Build both **PROFITS** *and* **PRESTIGE** *with* **Copeland**

Commercial Refrigeration

There's a double satisfaction in selling Copeland Commercial Refrigeration. First, of course, is the extra PROFIT offered by this quality-line. And second, there's the satisfaction of knowing that every Copeland you sell adds to your reputation and prestige.

Write today for FULL FACTS about Copeland's profit opportunity.



COPELAND REFRIGERATION CORPORATION, Sidney, Ohio

Major Appliances

Electric Roasters Climb To Fifth Place In Appliance Sales

NEW YORK CITY — Electric roasters last year ranked fifth in unit sales among household electrical appliances retailing for more than $20, according to a roaster market survey recently completed by Arthur Hirose, director of research, McCall's magazine. And this despite the fact that the roaster was introduced to appliance trade only four years ago.

Prepared for the electric roaster manufacturers who are affiliated with the domestic appliance section of National Electrical Manufacturers Association, and presented to them at their recent Hot Springs, Va., meeting, the study further revealed that roaster sales last year were five times as great as those in 1934.

The roaster still has, the report pointed out, the appeals of novelty, usefulness, cleanliness, economy, coolness, convenience, and portability. Because it requires no special wiring and consumes comparatively little current, it is being used in the home to supplement, rather than to replace, existing cooking facilities.

Because of these features, Mr. Hirose's survey predicts, the roaster will win acceptance with the housewife as readily as have those other electrically operated appliances used in food preparation—the refrigerator, range, coffee maker, mixer, toaster, and waffle iron.

Bruce Fleming, executive secretary of the roaster group of Nema, plans to place copies of the complete study in the hands of individual roaster manufacturers who comprise the group, including General Electric Co., National Enameling & Stamping Co., Proctor Electric Co., Swartzbaugh *Mfg.* Co., and Westinghouse Electric & Mfg. Co.

New Roaster Designed To Cook Entire Meal

MANSFIELD, Ohio—A new electric roaster, called the "Automeal" and designed to cook entire meals for eight to 10 people in addition to performing the conventional functions of a roaster, has been announced by Westinghouse Electric & Mfg. Co.

In a complete set, the Automeal comes with a broiler-grid and 5-piece "Glasbake" dish set or 7-piece "Mirro" aluminum set.

The roaster, which can be plugged into any wall or floor outlet, cooks, grills, fries, bakes, and roasts. Its capacity is 17.9 liquid quarts. Increased depth is said to provide greater heat radiation surface.

Reduction of 17% for preheating time and increase of 12% in efficiency are said to be made possible by an improved type heating element and doubled heat glass wool insulation.

Automatic light behind the temperature indicator disk denotes whether or not the current is on. Thermostat has an "off" position on signal dial to eliminate the customary necessity of removing the plug each time to stop the current.

Heating element is constructed of nickel chromium resistance wire.

Black enamel finish is baked on Bonderized steel. Non-rusting aluminum lid provides continuous self-basting action for cooking meats, it is claimed. Auxiliary stand is constructed of welded steel, finished in white enamel, and provides extra space for utensil storage.

Design Features Mark Hotpoint Ironer

CHICAGO—Priscilla Imperial, one of three new Hotpoint electric ironers, has just been announced by Harry Warren, manager of the home laundry division, Edison General Electric Appliance Co.

Priscilla Imperial is a console-type ironer with a folding cover which, when not in use, provides extra shelves for the finished ironing.

Other features are concealed casters, two thermostats, motor switch, step and stabilizer to hold ironer in position, adjustable pressure, and dual speeds.

Each of the three new Hotpoint ironers has high-speed Calrod heating element, 26-inch padded roll, chromium-plated shoe, providing 110 sq. in. of ironing surface, and folding shelves.

Dual knee and finger control is said to permit easy, free operation of the new ironers; in addition, there is a convenient emergency release. The drive mechanism is fully enclosed and permanently lubricated, requiring no oiling.

Bendix Reorganizes Sales Setup, Names Managers

SOUTH BEND, Ind.—Several new sales divisions were created by Bendix Home Appliances, Inc. when it recently reorganized its national sales setup, and a manager was appointed for each division.

New managers and their territories, as announced by Judson S. Sayre, vice president in charge of sales, are:

J. T. Dalton, eastern New York and Pennsylvania; C. J. Laufersweiler, southern Ohio, Indiana, and northern Kentucky; R. C. Cameron, Chicago and Milwaukee; G. L. Godfrey, Minnesota and the Dakotas; S. R. Kemp, Kansas, Missouri, southern Illinois, and Arkansas; C. D. Mitchell, the southeast.

R. F. Hotton and C. B. Graves have been named special sales representatives. H. E. Richardson has been appointed as regional manager of Iowa.

'Tragedy' School To Have Electric Water Heaters

NEW LONDON, Tex.—Four new Hotpoint electric water heaters have been installed in the $300,000 school building which is being constructed here to replace the one destroyed last year in the disastrous explosion which took the lives of 294 school children and teachers.

Two of the Hotpoint heaters have a capacity of 10 gal. each, while the other two are 5-gal units. All have Monel tanks.

In the new school, now nearing completion, every precaution is being taken to prevent the accumulation of gas, which was responsible for last year's explosion.

Crosley 'Super 8' Now At Former Price

CINCINNATI — With push-button tuning and other features added, the Crosley "Super 8" table model radio, introduced last season, has been reintroduced to the market by Crosley Radio Corp. at its former list price of $39.95.

The new "Prestotune" mechanical push-button system of tuning is instantaneous in action, it is claimed.

New Kansas City, Kan. Water Heater Regulations Providing Reduced Rates Increase Sales

KANSAS CITY, Kan.—A new set of rules, regulations, and specifications covering the installation of electric water heaters, put into effect May 1 by the Board of Public Utilities here, resulted in the sale of 11 water heaters the first week, reports Richard Lewellyn, merchandise representative of the board.

Among other things, the new arrangement provides for a reduced water heater rate of nine mills, instead of the former 1½-cent off-peak rate. Under the new arrangement, no charge is made for the first installation, but a graduated scale is provided for those people who require successive installations.

Conduit entrance and wiring to and including service switches are the property of the Board of Public Utilities, in view of the installation allowance made. Dealers pay $5 installation allowance on all installations, whether initial or subsequent.

Greatest demand for water heaters, Mr. Lewellyn states, comes from families who already are using an electric range but must still maintain their gas service for the hot water heater. Mr. Lewellyn looks for a strong follow-up on range sales, and predicts an increase in the number of combination sales (range and water heater together) made.

Other provisions of the new regulations follow:

Water heaters must have a capacity of at least 52 gallons and must be equipped with two heating elements, the bottom element to be approximately 30 watts per gallon of heater capacity. A thermostatic control must be provided to limit the demand of the heater by preventing simultaneous operation of the heating elements.

Socket-type meter bases for outdoor metering are furnished by the Light Department, but all locations for such meters must be approved by the department and the meters must be mounted 7 feet above the ground.

When an indoor meter already is in use on an electric range installation, however, the meter for off-peak water heating service also must be installed inside.

Where existing service entrance equipment is inadequate to supply both present and proposed additional load, it shall be replaced with an approved combination service distribution cabinet having a capacity of not less than 60 amperes, 250 volts. This cabinet shall be installed in a readily accessible location, where service conductors may be conveniently run to it.

The heater must be installed plumb, using metal shims, and its location must be approved by the Light Department. Heaters operated by gas or by the furnace coil must not be connected in parallel with electric water heaters.

Hot and cold water lines shall not be smaller than ½-inch pipe size. A pressure or relief valve set for 150 lbs. shall be installed at the cold water connection to the heater, and an open discharge outlet from this valve shall be piped to the floor or drain.

The Board of Public Utilities will participate in wiring cost of installing electric water heaters as follows:

"Customer's first installation—(A) Heater (no range service), $40; (B) Heater and range combination, $50; (C) Heater—outside meter (range service previously installed), $20; (D) Heater—inside meter (range service previously installed), $15.

"Customer's subsequent installations (occasioned by moving)—Plan 'A': One year's service at same address, $10; one and one-half years' service, $15; two years' service, $20; two and one-half years' service, $25; three years' service, $30; three and one-half years' service, $35; four or more years' service, $40.

"Plan 'B': One year's service at same address, $15; one and one-half years' service, $22; two years' service, $30; two and one-half years' service, $37.50; three years' service, $45; three and one-half years' service, $50.

"Plan 'C': One year's service at same address, $10; one and one-half years' service, $12.50; two years' service, $15; two and one-half years' service, $17.50; three years' service, $20.

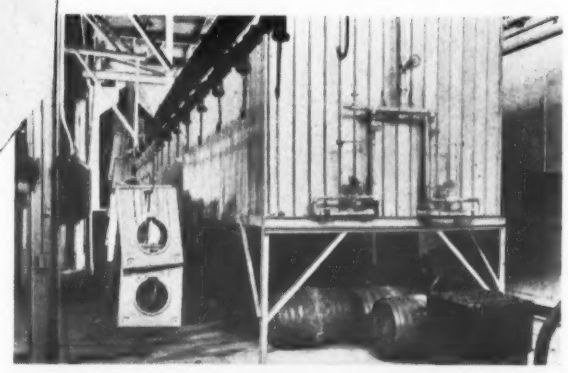
"Plan 'D': One year's service at same address, $5; one and one-half years' service, $7.50; two years' service, $10; two and one-half years' service, $12.50; three years, $15.

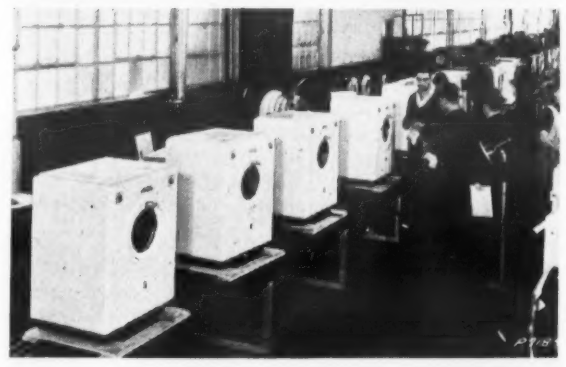
"Maximum allowance for combination range and heater installation, $50. No allowance will be made for plumbing, the regulations state."

BONDERIZING HOLDS THE FINISH ON THE BENDIX Home Laundry

Upper illustration shows Bendix Home Laundry Parts coming from the Bonderizing Process.

Lower view is a scene on the Bendix assembly line.





"ESCAPE from Washday" is a pleasing new slogan for American housekeepers, made possible by the Bendix Home Laundry, a machine which combines the whole laundering routine—washing, rinsing, damp-drying—in one automatic, compact unit.

To match this advanced engineering achievement and provide a finish in keeping with its mechanical completeness, Bonderizing is included in the finishing system.

Bonderizing forms an ideal base for the baked enamel finish. It provides positive adhesion for the enamel, making it highly resistant to moisture and protects the metal from rust.

Continuous fine appearance ranks high as a buying consideration. Salesmen can use this quality as a buying consideration. Salesmen can use this quality as a convincing sales argument.

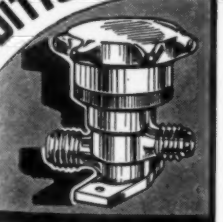
PARKER RUST-PROOF CO.
2197 E. Milwaukee Ave.
Detroit, Michigan

Send For This Book

It contains a complete explanation of Bonderizing as it is used on washing machines, refrigerators and many other products.

PARKER Processes CONQUER RUST
BONDERIZING • PARKERIZING

AIR CONDITIONING • REFRIGERATION •



FITTINGS

We manufacture an exceptionally complete line of Valves, Fittings and Accessories for Mechanical Refrigeration and Air Conditioning.

Send for our new Catalog and Price List 2004—The most comprehensive catalog ever issued to the trade.

MUELLER BRASS CO.
PORT HURON, MICHIGAN

Commercial Refrigeration

Laundry Finds Success In 'Shocking' Moths In Refrigerated Fur Storage

EVANSVILLE, Ind.—After two years of operation, the management of the Krauss Laundry Co. declares that its installation of Servel refrigeration equipment for a refrigerated fur storage department has proven to be one of the most profitable investments ever made by the long-established laundry and dry-cleaning company.

Evansville was without such a plant two years ago and there was little factual information on which to anticipate the popularity of such a service. However, the Krauss management set about to build and equip a refrigerated fur storage room in the fall of 1935 and built a second story over a portion of their plant for this purpose.

THE BUILDING AND EQUIPMENT

A room 32½ by 21½ by 8 feet high inside was constructed and designed to store 1,500 garments. The walls, floor, and ceiling of this room were insulated with 4 inches of hydrolened corkboard applied in 2-inch layers with all joints staggered, and the inside finished in cork plaster.

The refrigerating equipment selected consisted of a model WO-500 Servel machine unit (5 hp.) and two forced-convection Servel humidraft evaporators.

The machine was equipped with a two-speed motor and set up on a basis of holding the refrigerated room at 35 to 40° F. at "slow" (one-half speed) and at 20° F. under "high" or normal speed. The electrical hook-up was as per Fig. 1. This installation was first placed into operation June 1, 1936.

'SHOCK' METHOD

The "shock" method of moth elimination is the one being used. Every two weeks the refrigerating equipment is shut down and the room permitted to rise in temperature to about 70° (without opening the door). This period allows for the incubation of any moth eggs that might be present.

Then the temperature is quickly reduced to 20° and held there for 24 hours, during which time moth larvae are killed by freezing.

Following this period the room is held at 35 to 40° for another 10 days or two weeks when the shocking cycle is repeated.

The return on the investment is running about 26%, the Krauss management reports.

The installation in its entirety cost $5,000, of which $3,400 was for the room proper and the balance was for the refrigerating equipment and controls. The gross revenue has been running $2,500 per year. As against this the following charges are being taken.

OPERATING FIGURES

Depreciation of the building—The refrigerated room—25-year basis	$ 136.00
Depreciation of the refrigerating equipment—10-year basis	160.00
Insurance (the room is equipped with the latest type gas or "dry" fire extinguishing equipment and a burglar-proof safe type inner door)	300.00
Operating expense—water at 10¢ per 1,000 gal., electricity at 1.5¢ per kwh.	315.00
Attendants	100.00
Incidentals, miscellaneous, taxes, etc.	200.00
Total Yearly Expense and Depreciation	$1,211.00
Net Profit	$1,289.00
Per Cent of Investment	25.8

Not only does this in itself represent a good investment, but the Krauss management reports this has resulted in a definite increase in fur and woolen garment cleaning, for practically all patrons want their garments cleaned whether this is before or after the storage period.

Current storage rates are as follows:

Furs—$2.50 on first $50 valuation, 1% over.

Woolens—$1.00 on the first $50 valuation, 1% over.

It can be appreciated that where this represents a profitable enterprise under this storage rate schedule, this type of business can be that much more interesting in other areas where higher rates are in vogue as a proportionate increase in expense is not encountered.

Air Conditioning Adds To Fur Storage Firm's Business

POTTSVILLE, Pa.—The addition of air conditioning for its patrons to refrigerated storage facilities for their furs has resulted in a large increase in repair and alteration business for S. Pollack, Inc., with storage headquarters here and another retail store in Harrisburg.

Air-conditioning system was installed last fall, in connection with the refrigerating of the firm's third fur storage room on the second floor, a space measuring 38 x 16 x 11 feet. Both conditioning and storage loads are carried by a 5-hp. Frick methyl chloride unit, installed by Allen Refrigerating Co., Allentown, Pa.

Conditioner is installed in a back room, and the ductwork, concealed by panels made of pressed wood, is mounted on top of the closets at the right side of the retail sales room.

Last fall's storage installation is the third made by the company, and gives it a capacity of 7,000 to 8,000 fur coats. All three storage rooms are Frick installations, made by Allen Refrigerating Co.

First installation, made in 1926, consisted of a 4 x 4 ammonia machine to cool a basement storage room 75 feet long, 16 feet wide, and 7 feet high. Coils were placed in a separate storage, and included 600 feet of 2-inch pipe; a blower and duct system distributed the air in the fur storage.

A second storage room, using the same compressor under automatic control, was added in 1934, on the building's second floor. Refrigeration for that system is furnished by two ceiling-type blower units.

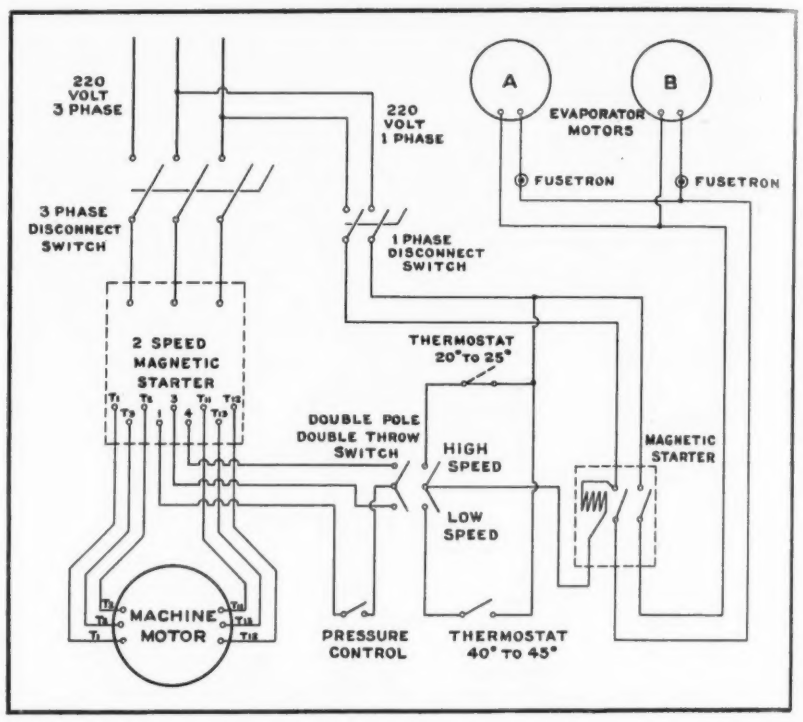
Pluckett-McGee Moves

COLUMBUS, Miss. — Pluckett-McGee Electric Supply Co. has moved into its own new building on S. Sixth St. here. W. L. Pluckett and W. E. McGee are co-owners of the appliance and electrical equipment retail firm.

Boosting Profits For Laundry Firm

Interior of the fur storage vault of the Krauss Laundry Co. in Evansville, Ind. Installation of a refrigeration system brought added profits.

Wiring Diagram



Wiring diagram used for the refrigerating system, this particular setup being used because a two-speed motor was installed to power the refrigerating machine.

Milwaukee Apartment Hotel Gets New Units

MILWAUKEE—Commercial Cooling Co., Ripon, Wis., is installing a new electric refrigeration system in the Colonial hotel here to replace a brine circulating type that has been serving the hotel's 75 furnished kitchenette apartments and 15 bachelor apartments since 1922. V. M. Wilson, formerly of Milwaukee, operates the refrigeration company.

Replacement Hardware Announced By Kason

BROOKLYN — Kason Hardware Corp. has added three new hinges to its line of replacement hardware for household refrigerators. All three are of brass construction, with chromium plating.

Hinge No. 2055, for Electrolux units, lists at $2.40 per pair; No. 2056, for Frigidaire electric and Bohn ice refrigerators lists at $1.78 per pair; No. 2054, for General Electric units, lists at $5 per pair.

The new hinges are described and pictured in a folder just issued by the company.

New Spray Gun Marketed By Milburn Co.

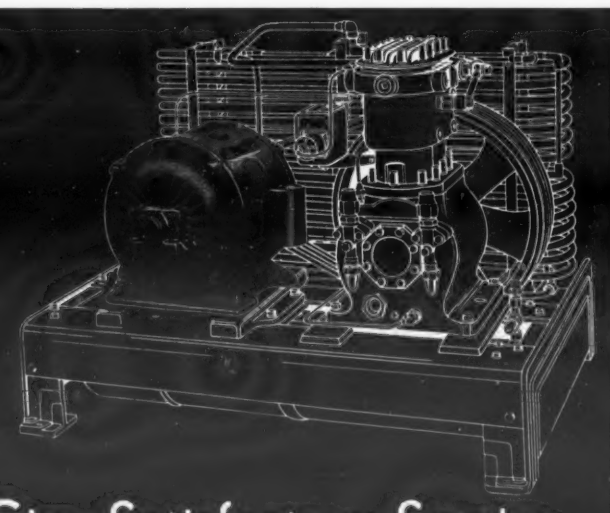
BALTIMORE—A new "Om" spray gun, for spray finishing with various fluids, has been announced by Alexander Milburn Co.

Featured in the new gun is a "Hollow Air" atomizer head, with integral locknut, which discharges air in hollow, conical shape from jets in the side wings, completely atomizing the spray.

Montgomery Is Manager Of Passman Company

SHREVEPORT, La. — Allen C. Montgomery has been appointed manager of Passman Equipment Co., local distributor for Norge appliances and Viking commercial refrigeration units.

To Have Satisfied Customers



Your Equipment Must Give Satisfactory Service

1. *PERFORMANCE.* Wagner motors have performance characteristics that enable them to continue to give faithful service, even under the most severe operating conditions. The performance characteristics of Wagner motors that are necessary for satisfactorily operating refrigeration and air-conditioning equipment have been determined from actual tests.

2. *QUIETNESS.* Sound engineering principles are back of the quietness of Wagner motors. Dynamically balanced rotors, concentrically machined endplates, diamond bored bearings—these and other important features assure quiet, smooth operation.

3. *RUGGEDNESS.* Wagner motors are sturdily constructed and compactly designed. Stator frames are of rolled steel—strong, rigid, will not get out of alignment. Bases are formed from steel plate and are of electrically-welded construction.

4. *RELIABILITY.* Intelligent engineering, careful workmanship, high grade materials, and thorough testing are reasons why Wagner motors are completely reliable.

Safeguard the reputation of your equipment by selecting a DEPENDABLE WAGNER MOTOR for your Compressor, Blower, and Pump Drives

It is highly important that you select the right motor for the job, since the failure of the motor means the failure of the equipment which it drives. Wagner Type RP motors are available with the necessary mechanical and electrical characteristics for quiet, smooth operation, and dependable, trouble-free service. It is not by accident that Wagner motors continue to give faithful, trouble-free service year after year on all types of air-conditioning equipment. In the panel at the left are a few reasons why Wagner motors enjoy such an enviable reputation in the refrigeration and air-conditioning industry.

Ask! For Bulletin 182 on Wagner Polyphase Motors.

ML238-5M

Wagner Electric Corporation
6400 Plymouth Avenue. Saint Louis, U.S.A.

The PREFERRED Refrigerant for service work

MACHINE MAKERS like ARTIC because its favorable combination of properties permits building compact, light-weight units that operate efficiently and economically.

Service Men like ARTIC because its high purity, wide distribution and ease of handling contribute to convenient, dependable work in recharging Methyl units.

DUPONT

E. I. du Pont de Nemours & Co., Inc.
THE R. & H. CHEMICALS DEPT.,
Wilmington, Del.

Every facility of Servel's vast factory is available to meet your refrigeration needs, whether large or small.

Write For Details to Servel, Inc., Electric Refrigeration And Air Conditioning Division, Evansville, Ind.

Air Conditioning

100 Air-Conditioning Systems Installed In Metropolitan New York Through April

NEW YORK CITY—Air-conditioning installations contracted for in the New York City metropolitan territory during the first four months of this year totaled 100, with 6,442.43 total installed horsepower, according to reports compiled by Consolidated Edison Co. of New York, Inc., New York & Queens Electric Light & Power Co., and Brooklyn Edison Co., Inc.

Fifty-five of the installations were for more than 20 hp.; 27 jobs were between 10 and 20 hp.; and 18 systems were 10 hp. or less.

Included in the installations contracted for during the first third of the year were 45 restaurants, with an aggregate horsepower load of 1,500.47; six theaters, with a total of 218.16 hp.; six offices, totaling 272.85 hp.; 19 stores, totaling 319.92 hp.; two office buildings, totaling 2,200 hp.; two department stores, totaling 321.5 hp.; a moving picture studio, totaling 220 hp.; and two hotel coffee shops and dining rooms, totaling 201.2 hp.

Only two installations for residential use were reported, but one of these was in an apartment building, and totaled 208 hp. The other, in a private residence, was for 1.33 hp.

Three bank conditioning systems were contracted for, one totaling 16 hp. and the other two 156 hp. Two broadcasting studios also were conditioned, the systems aggregating 121.5 hp. Another large installation, totaling 81.5 hp., was contracted for by a dance studio.

Two industrial installations were contracted for, one, in a film manufacturing plant, totaling 635 hp., and the other, for storage use, amounting to 13 hp. Two systems also were installed in funeral parlors.

Manhattan and the Bronx had a wide lead in installations contracted for through April, the total in these two boroughs being 82 systems aggregating 6,114.95 connected hp. Queens had 10 installations reported for the period, and Brooklyn reported eight. Queens jobs totaled 145.93 hp., and Brooklyn installations 181.55 hp.

Railroad Equips Coaches

BALTIMORE — Air-conditioned coaches equipped with year-around systems for summer cooling and winter heating have been placed in operation by the Western Maryland Railroad.

Air-Conditioning Installations In New York Area For First 4 Months Of 1938

Manhattan & the Bronx

(Compiled by Consolidated Edison Co. of New York, Inc.)

Application	0 To 10 Hp. No.	0 To 10 Hp. Hp.	10.1 To 20 Hp. No.	10.1 To 20 Hp. Hp.	20.1 Hp. & Up No.	20.1 Hp. & Up Hp.
Commercial						
Apartment House	0	0.0	0	0.0	1	208.0
Banks	0	0.0	1	16.0	2	156.0
Broadcasting Studios	0	0.0	0	0.0	2	121.5
Dance Studios	0	0.0	0	0.0	2	81.5
Hotel Coffee Shops and Dining Rooms	0	0.0	0	0.0	2	201.2
Moving Picture Studio	0	0.0	0	0.0	1	220.0
Offices	1	.75	3	40.5	1	230.0
Office Buildings	0	0.0	0	0.0	2	2,200.0
Optician	1	6.0	0	0.0	0	0.0
Restaurants	3	22.25	11	185.5	25	1,073.67
Stores, Department	0	0.0	0	0.0	2	321.5
Stores, Retail	9	56.25	4	57.5	6	206.17
Theaters	0	0.0	0	0.0	1	62.66
Industrial						
Film Manufacturing	0	0.0	0	0.0	1	635.0
Storage	0	0.0	1	13.0	0	0.0
Totals	**14**	**85.25**	**20**	**312.5**	**48**	**5,717.2**
Total					**82**	**6,114.95**

Queens

(Compiled by New York & Queens Electric Light & Power Co.)

Application	0 To 10 Hp. No.	0 To 10 Hp. Hp.	10.1 To 20 Hp. No.	10.1 To 20 Hp. Hp.	20.1 Hp. & Up No.	20.1 Hp. & Up Hp.
Residential						
Residence	1	1.33	0	0.0	0	0.0
Commercial						
Doctor's Office	1	1.6	0	0.0	0	0.0
Funeral Parlors	0	0.0	1	15.0	1	27.5
Restaurant	1	5.0	0	0.0	0	0.0
Theaters	0	0.0	3	38.0	2	57.5
Totals	**3**	**7.93**	**4**	**53.0**	**3**	**85.0**
Total					**10**	**145.93**

Brooklyn

(Compiled by Brooklyn Edison Co., Inc.)

Application	0 To 10 Hp. No.	0 To 10 Hp. Hp.	10.1 To 20 Hp. No.	10.1 To 20 Hp. Hp.	20.1 Hp. & Up No.	20.1 Hp. & Up Hp.
Commercial						
Beauty Salon	1	7.5	0	0.0	0	0.0
Restaurants	0	0.0	2	35.0	3	79.05
Theaters	0	0.0	1	20.0	1	40.0
Totals	**1**	**7.5**	**3**	**55.0**	**4**	**119.05**
Total					**8**	**181.55**

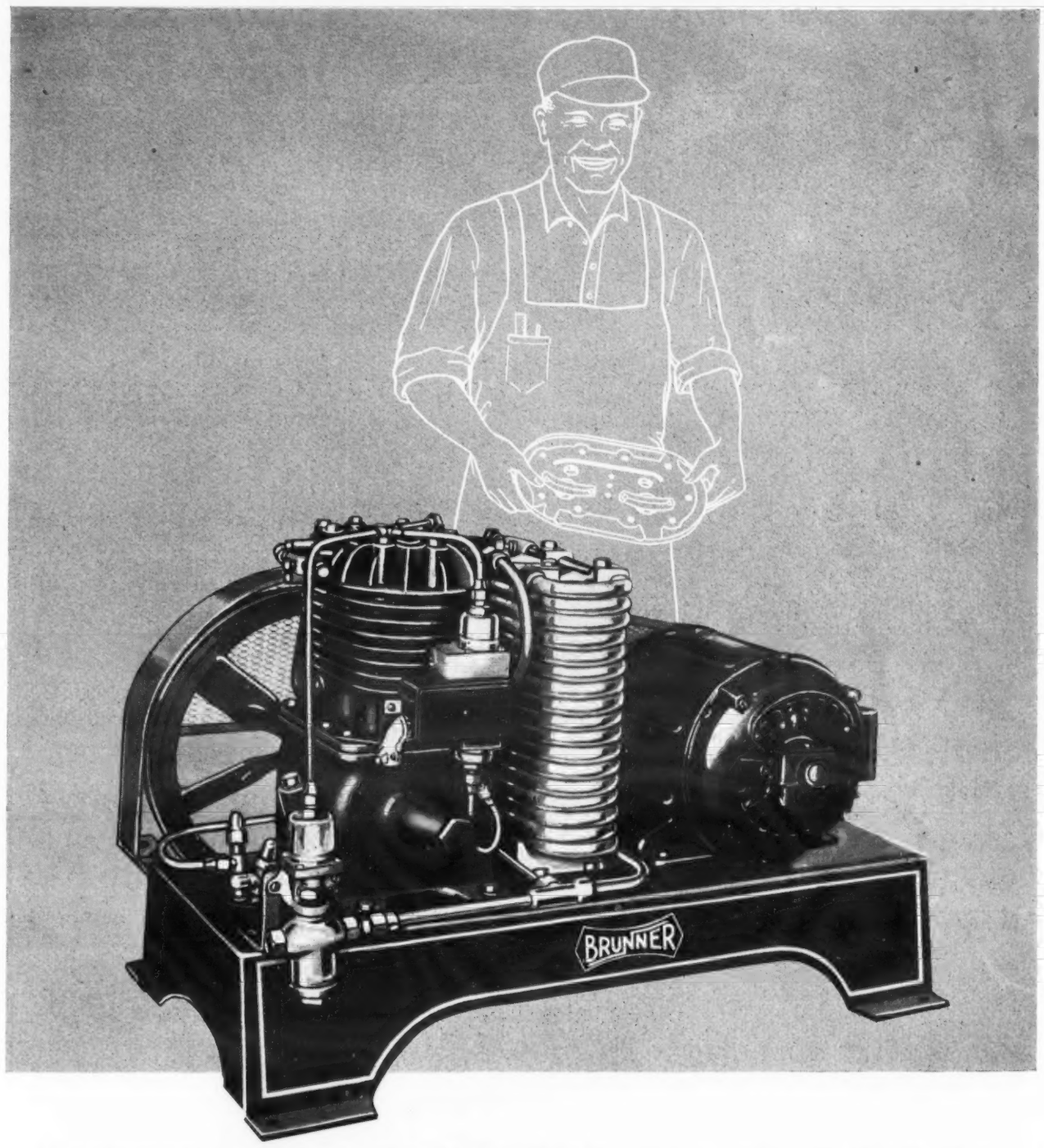
Ice Air-Conditioning System For Auto Trailers Is Developed By Schult Trailers, Inc.

ELKHART, Ind. — Announcement of an ice air-conditioning system for trailers has been made by Wilbur J. Schult, president of Schult Trailers, Inc. here.

Designed as a companion to the system of "temperature equalization" for winter heating of trailers brought out by Schult earlier this year, the new unit is said to make possible comfortable trailer living conditions throughout the year, according to Mr. Schult.

Ice compartment of the conditioning system holds 50 lbs., and can be used also as a beverage cooler, it is said. The system is said to produce a dry air, 40% recirculated and the other 60% fresh air drawn from outside the trailer.

Explaining operation of the system, Mr. Schult said that warm air from the trailer is drawn in through an intake pipe, mixed with fresh outside air, and then brought down into the refrigerating unit, where it is cooled. It then passes through a dehumidifying unit, where excess moisture is removed, and from that point is forced out into the trailer by a special circulating unit, to assure an even temperature at all points.



HERE'S HOW TO "CROSS THE BRIDGE" OF

REPAIRS

BEFORE YOU COME TO IT!

A good many manufacturers like to "soft pedal" the possibility of repairs. But here at Brunner we like to be practical about it. It's like this: The finest mechanism ever constructed ultimately needs repairs, here and there. Everybody knows that. True, Brunner long-duty construction cuts repairs to a minimum. But, at a future date, when repairs are required, you'll find them ***less expensive*** on a Brunner. Brunner parts are so precisely machined within close tolerances that replacements slip easily into place—fit perfectly. The valves, so commonly the source of delayed operation in some equipment, are designed as a complete unit assembly on all Brunner models, readily replaceable by any mechanic. No experts needed! Throughout the Brunner construction you find the same precautions taken to reduce the frequency and expense of repairs. Ask any Brunner user . . . Full particulars on Brunner Refrigerating and Air Conditioning equipment await your inquiry. Condensing units, air and water cooled, up to 15 H. P. Brunner Manufacturing Company, Utica, N. Y., U. S. A.

IT'S BRUNNER FOR *economical* SERVICE

NEW PRODUCTS FOR NEW APPLICATIONS

Wherever it is desired to reduce heat or humidity there is a

GR COMMERCIAL REFRIGERATION

GR AIR CONDITIONING

Write for information covering the complete GR-Lipman line.

GENERAL REFRIGERATION CORPORATION

Dept. F-4, Beloit, Wisconsin, U.S.A.

AIR CONDITIONING & REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office; Established 1926 and registered as Electric Refrigeration News

Published Every Wednesday by
BUSINESS NEWS PUBLISHING CO.
5229 Cass Ave., Detroit, Mich.
Telephone Columbia 4242
Cable Address: Cockrell—Detroit

Subscription Rates

U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $4.00 per year; 2 years for $7.00. All other foreign countries: $6.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Send remittance with order. Notice: Please do not pay money to strangers claiming to represent this paper.

F. M. COCKRELL, *Publisher*

GEORGE F. TAUBENECK, *Editor*
PHIL B. REDEKER, *Managing Editor*
THEODORE T. QUINN, *Assistant Editor*
ALFRED JONES, JAMES MCCALLUM, and HENRY KNOWLTON, JR., *Staff Reporters*

R. T. CARRITHERS, *Advertising Mgr.*
HELEN K. GILMORE, *Asst. Adv. Mgr.*
JAMES B. SMITH, *Asst. Adv. Mgr.*

JOHN R. ADAMS, *Business Manager*
ROBERT P. NIXON, *Asst. Business Mgr.*
JEAN H. ADAMS, *Subscription Manager*
LOLA E. DEW, *Circulation Manager*
WINIFRED MERSON, *Spec. Representative*

Chicago Advertising Representative:
Lewis & Noelle
100 E. Ohio St., Superior 8550

Member, Audit Bureau of Circulations
Member, Associated Business Papers

VOL. 24, NO. 7, SERIAL NO. 482
JUNE 15, 1938
Copyright, 1938, Business News Pub. Co.

Stability In Radio Business

FOR the last seven or eight years the radio business has been wild-eyed and haywire. Too many manufacturers, too many dealers, too many sets, too many bankruptcies. Everybody in it says that it's a screwy business, that it's full of chiselers, that its retail price structure is a laugh.

Yet the radio industry goes on selling more than two million sets annually. And the product continues to improve.

1939 Models To Be Limited In Sensitivity

It is hinted that the new 1939 models, some of which will be out this summer, will be the most sensible yet. They will have push-button tuning, of course, and they will be limited in reception to half a dozen or so *local stations*. This may sound like a handicap; but on the contrary, it gives set manufacturers an opportunity to incorporate high fidelity reception into the chassis.

Every radio built today is a compromise between good reception with rich tonal qualities and long-distance sensitivity. This compromise worked even more to the detriment of faithful reception and reproduction when short wave was introduced into receivers.

Globe-Trotter Dialing Thing Of the Past

But the novelty of picking up punk programs from Rome and Skryscdzziak has pretty well passed on, just as has the fan who used to see how many stations he could tune in during the course of a session, and who would sit up until the wee morning hours trying to pick up faint signals from California.

What people want today is good, clear reception of the popular chain programs. They tune in the nearest stations carrying these programs. And four or five stations comprise just about the entire list of those to which they are apt to turn at any time. So why not build a radio which will meet these conditions, and give listeners the high fidelity which those expensive broadcasts warrant?

Expect Production To Be Governed

It is said also that set manufacturers will heed the cries of distressed distributors and dealers, and not try to force so many hundreds of thousands of receivers onto the market during the next season. They realize that to follow up last year's debacle of bursting warehouses and busted dealers with further overproduction, overloading, and the attendant orgy of price cutting might be disastrous to their distribution system.

Sensible radios, soundly engineered and soundly priced, sanely merchandised—all this probably sounds like the millennium to the harassed radio dealers of today.

It is to be hoped that the industry will follow through on the high plane of its present promises in regard to its 1939 program. Manufacturers and retailers both have made plenty of money in radio in the past, and it's high time that both factors gave themselves an opportunity to make money again.

Will Prices Be Lower In 1939?

ANNOUNCEMENT of Crosley's 1939 refrigerator models—all at prices substantially below the prevailing competitive structure—has led to considerable speculation as to whether prices on competing 1939 lines will be substantially lower when they are brought out.

Few people expect prices to be slashed on 1938 models to meet this new challenge, because (1) stocks of 1937 models are still in the field, and 1938 model prices must be kept up in order to dispose of the 1937 carry-overs at cut rates; and (2) dealers still want list prices kept high in order that they may appear to be giving the customer substantial discounts.

Crosley Capitalizing On a Catastrophe

Crosley converted a catastrophe into an asset, and is in a peculiarly fortunate position to capitalize upon his position. Last year fire and flood forced him to abandon production at the height of the season. Hence he entered 1938 with bare warehouse floors. And his new plant in Richmond, Indiana—built to replace the one destroyed—was newly tooled and all set this spring to turn out something new.

Lower prices, of course, mean smaller discounts. And competing manufacturers say that their dealers would rather have the quoted price high and then shave it to make the customer think he is getting a bargain, than be able to advertise a lower retail price. Hence they want long discounts. Yet these same dealers are first to yell when they see the prices in a Sears Roebuck advertisement.

Lower Prices Mean Smaller Discounts

So there are arguments on both sides, and it remains to be seen which will win out when the price schedules for major 1939 lines are decided. Whichever way it goes, the difference will lie in the size of the discounts. Labor costs are still high, and material costs have come down but little. If manufacturers retool for 1939, amortization costs will have to be figured into the total.

As the situation stands now, the odds would seem to be slightly against many major price reductions in the coming year.

They'll Do It Every Time . . . by Jimmy Hatlo

NO-NO, GEORGE! YOU GOT THE WRONG GUY: JOE DIDN'T THROW THAT SUGAR. I SAW IT ALL.
ALL RIGHT, MY FRIEND. I CAUGHT THIS ONE. YOU CATCH THAT ONE!
I'LL SAY HE GOT THE WRONG GUY. IT WAS THAT LITTLE SHRIMP WITH THE MUSTACHE. I'VE SEEN HIM HERE BEFORE. HE'S ALWAYS THROWING THINGS AROUND.
WE HAD A SALESMEN'S BANQUET HERE LAST NIGHT. THEY PRACTICALLY WRECKED THE PLACE
PLOP!
ALL RIGHT- IF THAT'S THE WAY YOU WANT TO PLAY-
15
16
SOME BONEHEAD HEAVES A LUMP OF SUGAR AND IN 5 MINUTES THE STAG BANQUET IS A SHAMBLES. THEY'LL DO IT EVERY TIME
6-16
JIMMY HATLO
Copr. 1938, King Features Syndicate, Inc., World rights reserved

LETTERS

Trying To Collect $1 From State Of N. Y.

The University of the State of New York
The New York State School of Agriculture
At Alfred University
Office of the Director
Alfred, N. Y.
May 20, 1938

Business Manager:

I am enclosing with this letter copies of two letters which we received from your auditor concerning an order which we placed with you on April 29.

I think it would be to our mutual advantage if you would settle the matter of such letters at once. We can see no cause for anything of this kind occurring in the future. We have done business with the leading publishing companies in New York State for years without any difficulty and feel that, if this misunderstanding is cleared up that we will be able to do business with you as well.

I explained that the delay in payment of the voucher was due to the fact that the statement was sent to the University rather than to the New York State School of Agriculture.

I sincerely hope that this matter may be straightened up and that we may feel free to order books and materials from you.

ALBERT E. FRENCH,
Dept. of Technical Electricity

Answer: We do not believe you are justified in taking exception to the letters of our auditor, requesting a confirming purchase order or advance payment for the books ordered in a letter dated April 29, 1938, inasmuch as our records showed that no payment had been received for a book ordered six months previously.

We are willing to sell books to *anyone who will pay for them* but it is a sad fact that many people do not pay their bills, especially *small* bills. Obviously, it is impractical to make a credit investigation before filling an order amounting to one dollar or thereabouts so we must depend upon past experience in deciding whether to extend credit or require payment in advance.

The letter says: "If you will submit bill to the school, check will be forwarded in payment." That sounds promising, but we have learned that many institutions have a habit of repudiating bills incurred by their employes, especially when the latter take the liberty of placing orders without complying with the regulations of the purchasing department.

However, no doubt our subscription department would have promptly filled the order, since it had all the earmarks of a good credit risk, except for the fact that the record showed that a previous invoice to the same institution had not been paid and that the account had been transferred to the "delinquent" file.

Perhaps, we should also explain that, in general, the orders which we receive from national and state governments are usually more bother than they are worth. The red tape involved in collecting such accounts adds seriously to the burden of clerical work necessary in our business. In your case it was necessary to *notarize* a claim (on a quadruplicate form) in order to collect $1.00. If we had to go through such procedure in handling *all* orders, the price of our publications would be much higher.

Please keep in mind that we have no source of revenue except that received from the sale of our publications and services. We are not supported by taxation but, on the contrary, pay taxes which are becoming increasingly more burdensome, to support national and state governments. The net of the situation is that our every contact with government (even including the handling of orders for our products from governmental departments) represents a *loss* to us.

When we purchase books from any department of the government (which we do occasionally) our check must be attached to the order. If we fail to pay any of our numerous taxes on time, interest is added and we are threatened with fines and imprisonment.

Under the circumstances, perhaps you will pardon us for a certain lack of enthusiasm when it comes to doing business with governmental institutions.

Who First Cooled A Phone Booth?

New York Steel Exchange Arg.
Aire Aircondicionado
Buenos Aires, Argentina
May 5, 1938

Editor:

Your paragraph in the April 13 issue shows that Carrier is 10 years behind with the air-conditioned telephone booth.

The Companhia Radio-Telegraphica Brasileira in Rio de Janeiro have a long distance booth close to noisy traffic on Ave. Rio Branco. The booth was made soundproof with 8 inches of Celotex top and bottom and all sides and door. It was cooled with a large Frigidaire unit, which cooled a tank of water. The side of the tank formed part of one wall of the booth. The result was too much cold with 100% relative humidity.

Manager Rene Bouguie purchased a 25 c.f.m. Gel unit which fits under the little table provided for your elbows when you telephone.

The result has been excellent, combining comfort with the pleasure of telephoning from Rio to your wife in New York or London or Paris as the case may be.

The Gel unit is reactivated by means of resistance coil and is safely entrusted to the tender mercies of the porter.

MARK R. LAMB

The 'Cancer' Bogey Coming Up Again?

The H. Schaffner Co.
Corner Main & Church Sts.
Marion, Ohio

Sirs:

Several years ago, I think it was during the year 1934, an article appeared in REFRIGERATION NEWS in rebuttal of the claims of various ice distributors that mechanical refrigerators caused or contributed to the development of cancer.

As I recall it, the article in question contained statements from medical authorities disproving this claim.

Inasmuch as we have had this argument come up several times locally, I am wondering if you could furnish us with a copy of this issue of the magazine and advise what would be the price for such a copy.

G. A. LEMM,
Appliance Manager

Answer: You probably have reference to the reprint of the article from the Journal of the American Medical Association, "Refrigeration and Cancer, a False Propaganda," which appeared in the Aug. 16, 1933, issue of the NEWS. A copy of this issue costs 10 cents.

You might also be interested in the reprint from the July 28, 1937, issue of AIR CONDITIONING & REFRIGERATION NEWS headed "Federal Trade Commission Finds Claims of Excessive Dehydration and Odor Transfer in Mechanical Units Are Unfounded." This reprint, which refutes many claims made against mechanical refrigeration, is in 8½ x 11-inch size and is available at a cost of 25 cents.

Refrigerants Mixed

General Household Utilities Co.
Grunow
Chicago, Ill.
May 9, 1938

Editor:

On page 18 of your May 4, 1938, issue of AIR CONDITIONING & REFRIGERATION NEWS, F. O. Jordan refers to Carrene No. 2 as being identical with dichloromonofluoromethane.

Dichloromonofluoromethane (Freon-21, $CHCl_2F$) not being identical with trichloromonofluoromethane (Freon-11, CCl_3F), I am at a loss to understand why Freon-11 is also called Carrene No. 2 and would appreciate your explanation of these two refrigerants.

H. FAULSTICH,
Chief Engineer.

Answer: Said Mr. Jordan, when asked about this:

"It is apparently one of those slips that pass in the night.

"I should have said trichloromonofluoromethane, or Freon-11, is identical with Carrene No. 2, for everyone knows that dichloromonofluoromethane is an entirely different refrigerant."

Directory Helpful

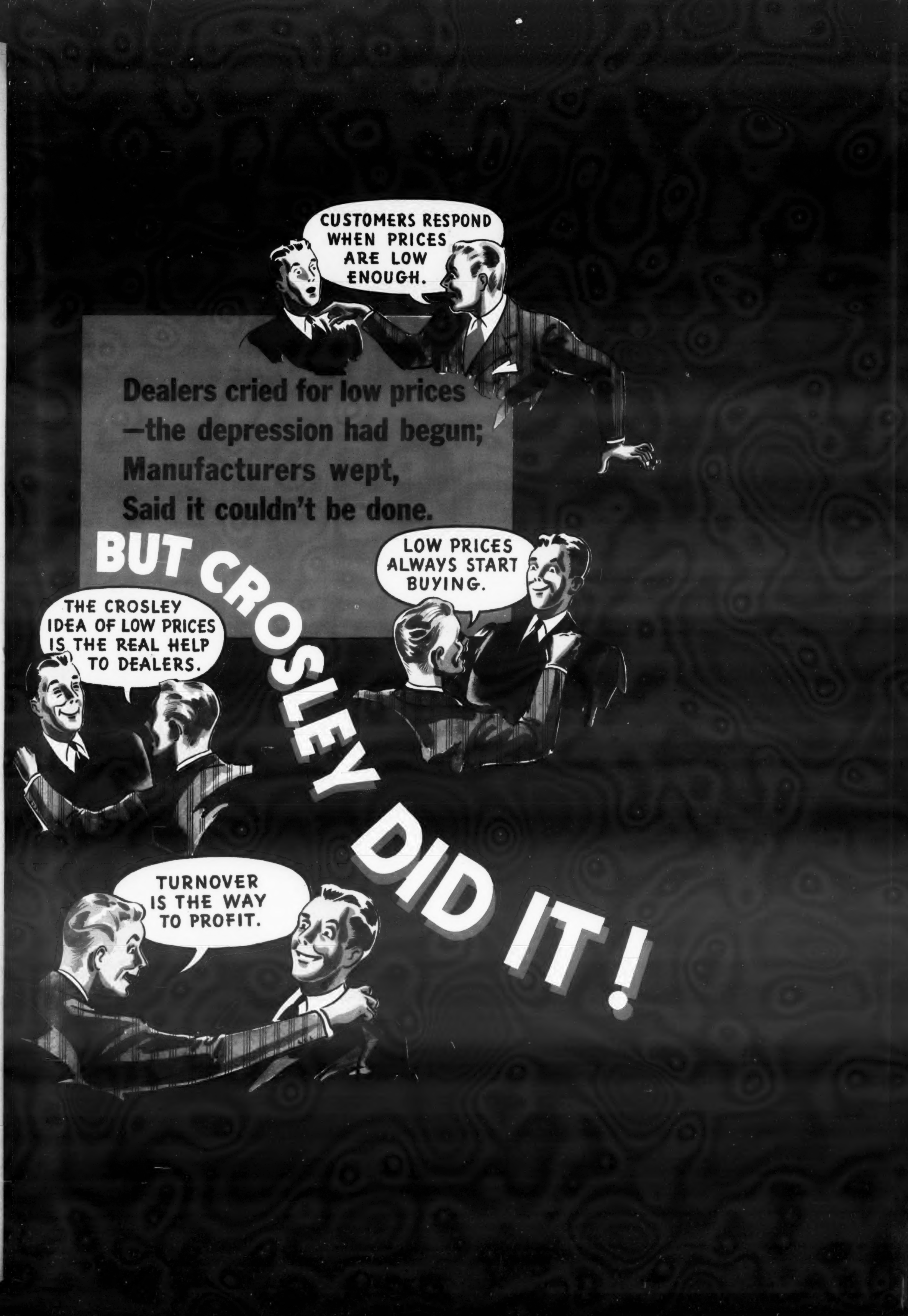
Eagle Cooler Co., Inc.
245 West 19th St., New York, N. Y.

Editor:

As to your Directory No. D-1, we have this on file here, and certainly have found it helpful.

A. E. FAST,
Sales Manager

"Around the World with a Candid Camera" was read with interest.—R. H. Guyton, chief engineer, Brunswick-Balke-Collender Co., Muskegon, Mich.


CUSTOMERS RESPOND WHEN PRICES ARE LOW ENOUGH.
Dealers cried for low prices
—the depression had begun;
Manufacturers wept,
Said it couldn't be done.
BUT CROSLEY DID IT!
THE CROSLEY IDEA OF LOW PRICES IS THE REAL HELP TO DEALERS.
LOW PRICES ALWAYS START BUYING.
TURNOVER IS THE WAY TO PROFIT.

CROSLEY M

— — — PRESENTS NEW 1939 SHELVADOR REFRIGERATORS

1936—1937—1938, each of these years the price level of refrigerators has been steadily advancing. This was all right during a wave of rising prosperity, but when the bottom fell out of things last September, sales suffered in a depression or buyer's market, which has existed so far through 1938. Appreciating the change from a seller's to a buyer's market that was taking place, Crosley engineers started with a clean slate to build the utmost into the line shown above at pric that would insure their sale in large quantities. Fro a performance standpoint, from a standpoint of eco omy of operation, these are the best refrigerators th we have ever tested regardless of make. So far duri 1938 the sale of current lines of refrigerators has be disappointing. Dealers have clamored for refrigerato that could be sold at a price that people could affo and were willi of 1937 and ev factories have obsolete mode for the manufa that people wo With the preli 1939 line of C

Built-in Radio available in "Regular" Models and in top of Standard and DeLuxe Models.

Five-Year Prote

1939 SHELVADORS — D NEW

MAKES HISTORY!

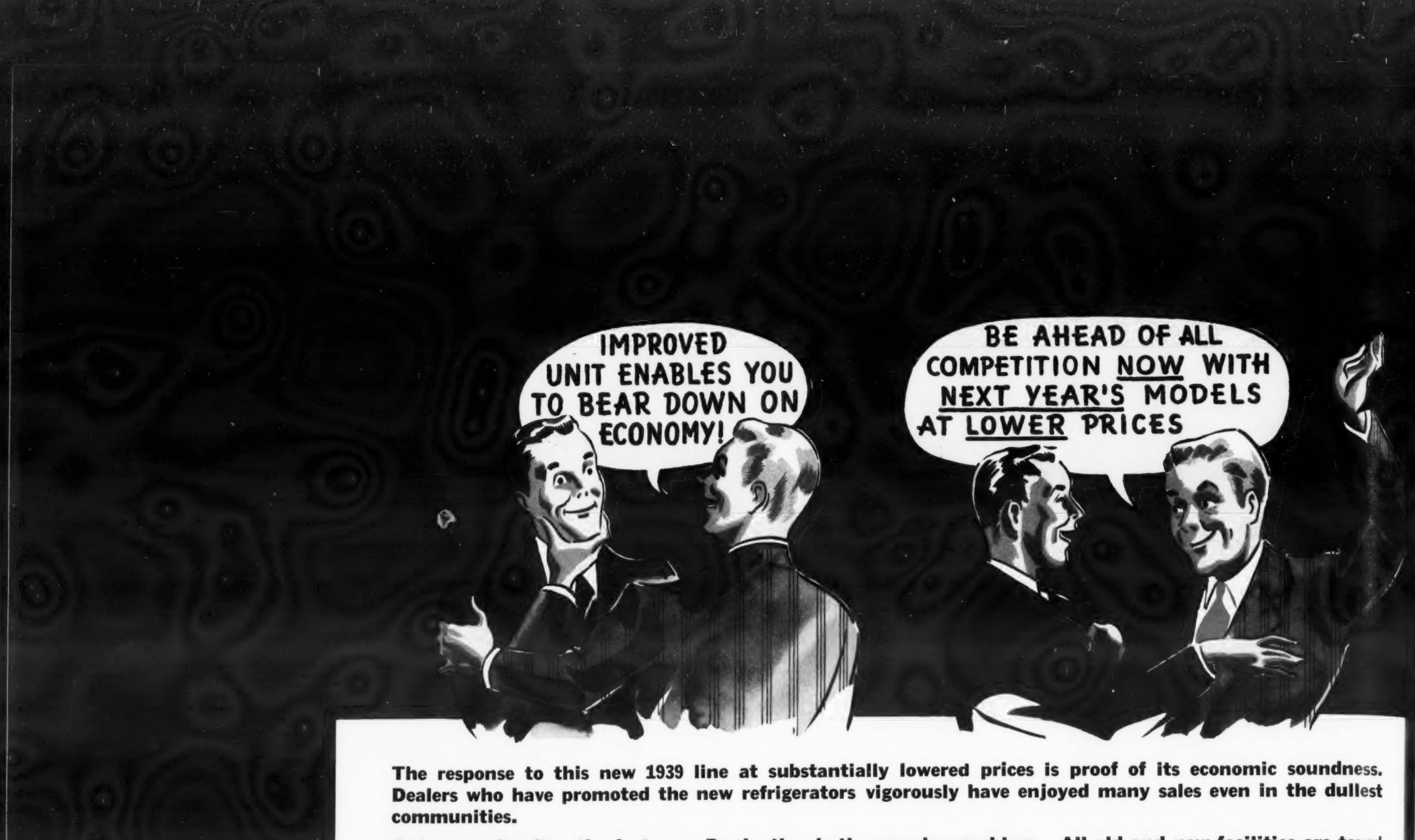
and were willing to buy. As a result large numbers of 1937 and even 1936 models have been sold. Some factories have actually gone back into production of obsolete models that could be sold on a close basis for the manufacturer, distributor, and dealer at prices that people would pay.

With the preliminary announcement of a new regular 1939 line of Crosley refrigerators, priced to sell, the demand has been tremendous. Our new million dollar plant at Richmond which has greatly assisted us in making such prices possible is now turning out these refrigerators as rapidly as it is possible. This line is a smashing hit—a great success—just what dealers and distributors have wanted. Its appearance has been timed perfectly. We predict that the sale of this line will carry right through the balance of 1938. Be sure to get aboard the Crosley Shelvador bandwagon now.

Five-Year Protection Plan $5.00 Additional.

Prices slightly higher West of Rocky Mountains.

-DEPRESSION SELLERS AT NEW LOW PRICES



The response to this new 1939 line at substantially lowered prices is proof of its economic soundness. Dealers who have promoted the new refrigerators vigorously have enjoyed many sales even in the dullest communities.

Orders are flooding the factory. Production is the pressing problem. All old and new facilities are taxed already.

Definitely the industry's best seller—equipped with the one great woman appeal—the Shelvador—plus, bottom-mounted, hermetically sealed, improved Electrosaver unit—and every desired feature of next year's refrigerators, it is your road to royal profit right now. Crosley dealers are further strengthened and their lead definitely lengthened by this NEW "regular" line at its NEW LOW PRICES.

Why sell last year's models when NEXT YEAR'S are available TODAY at LOWER PRICES?

It's selling! It's the answer to every refrigerator dealer's prayer. To quote Tide's reporting of a highly successful sale by a large New York department store: "It proves beyond a shadow of doubt that customers will respond if values are made attractive enough."

THE CROSLEY RADIO CORPORATION

Home of *"the Nation's Station"*—WLW—70 on your dial

POWEL CROSLEY, Jr., *President* **CINCINNATI**

NEW CROSLEY PLANT AT RICHMOND—The new million dollar refrigerator plant at Richmond, Ind., with its advanced production facilities makes these NEW LOW PRICES POSSIBLE. Quality is maintained in every manufacturing step while prices are brought down to fit today's pocketbook.

Stoker News

Martin Tells Why Stokers Fit Nicely Into a Retail Appliance Business

By Henry Knowlton, Jr.

CHICAGO — Low percentage of market saturation, an "off-peak" selling season, and non-recourse F.H.A. financing are three important reasons why the electrical appliance dealer should engage in the sale of automatic coal stokers, in the opinion of J. E. Martin, manager of the stoker division of Link-Belt Co.

"We believe," says Mr. Martin, "that more and more refrigeration dealers are becoming interested in automatic coal burner sales, because they recognize a new product which offers wide possibilities for sale.

"With a saturation point in the stoker field of between 3% and 4% of the wired homes, appliance dealers have been quick to recognize the opportunity for volume business.

"Stokers also fit in beautifully with refrigeration and appliance products because they are sold at a season of the year which is a slack period on air conditioning and refrigeration.

"The peak season for stokers is from the first of September to the end of November, and it is a 'natural' for dealers looking for something to keep their organization working at full speed during that time.

"Stokers have the added advantage of being approved under F.H.A. financing, which means that the dealer can secure his full profit on the sale immediately, and does not have to assume recourse responsibility on the note. This is particularly interesting to refrigeration dealers who have been faced with repossessions during the past four or five months.

"The refrigeration dealer can look to automatic heat as being one of his large future markets, and we believe that, due to its many advantages, automatic coal heat will be the most generally accepted method of heating the average home."

Two Models Added To 'Fire Chief' Line

NEW ALBANY, Ind.—Two new sizes of stokers, in 50 and 75-lb. sizes, have been added to the "Fire Chief" line of Anchor Stove & Range Co., to give dealers a wider selling range on the lower priced line.

The Fire Chief line is marketed as a companion to the Anchor Kolstoker, which features the full hydraulic oilmotor. Both of the stokers incorporate a new barometrically balanced air control, which is said to operate in an efficient manner throughout the life of the stoker.

According to engineers of the company, the new air control automatically regulates the amount of air that is fed to the fire, in a manner which synchronizes with the condition of the fuel bed and the operation of the stoker.

A thin fuel bed with blow holes in the fire, due to the stoker being idle for a long period, as is the case in mild weather, will cause this automatic air control to shut down and allow only enough air to pass through to maintain a clean burning fire when the stoker starts, it is claimed.

In starting, the control prevents an excess of air being blown through the fire until the stoker has had an opportunity to re-establish the depth of fuel bed, thus eliminating fly ash.

As the fuel bed gradually increases in depth, the air control automatically allows more air to pass through, so that when the fuel bed reaches a predetermined depth the air supply is maintained at the correct point.

An entirely new type of worm is incorporated in both the Fire Chief and Kolstoker lines, the company claims.

Crouch Corp. To Start Making Stokers

BIRMINGHAM, Mich.—Production of a new line of domestic and industrial stokers was started June 1 by the Crouch Corp. here. The new units are being manufactured in the Kingston Products Co. plant at Kokomo, Ind., and sales will be handled from the office of the company here.

Designed by J. Crouch, Jr., president of the Crouch Corp., the new stokers are known as "Tru-Temp" coal-burning units. W. J. Crouch is secretary and treasurer of the company; G. Frank Wintz has been named director of engineering; and Lowell E. Olmstead will serve as director of sales.

Features of the new stokers, offered in bituminous and anthracite models, are "Controlflo" coal feed regulation and automatic air, a new retort, and an automatic obstruction removal device. Sales of the new stoker will be handled through distributors.

Link-Belt Offers New Line At Reduced Prices

CHICAGO—A new line of "Economatic" domestic stokers has been announced by the Link-Belt Co. here, with a price range said to be the lowest ever offered by the company.

Features of the new stoker include one-piece cast iron hopper base, chrome iron sectional retort, variable intermittent drive, and inlet-type air-meter control.

Optional equipment for the Link-Belt line is offered in the form of a "bee-hive" type burning head for western coals.

PARTS LIKE THESE
SMALL STAMPINGS—WIRE FORMS
SPRINGS—VARIOUS TYPES
WASHERS — PLAIN, SPRING, SPECIAL
have solved countless design and manufacturing problems. Let us know what yours is. Design consultant services at your disposal. It will pay you to inquire.
M. D. HUBBARD, PRES. P. M. HUBBARD J. A. HUBBARD, SECY
M. D. Hubbard Spring Company
633 CENTRAL AVE., PONTIAC, MICH.

Stokers Just Starting Exploitation—Cross

INDIANAPOLIS—The under-feed stoker, despite more than 300,000 units already in use, has only begun to exploit the potential field of automatic domestic heating, R. C. Cross, fuel engineer of Bituminous Coal Research, Inc., Battelle Memorial Institute, Columbus, Ohio, told delegates to the eighth annual meeting of the Indiana Coal Merchants' Association here.

He declared the domestic stoker, burning bituminous coal, provides one of the lowest-cost forms of automatic heat for the home. The normal process of combustion in a stoker fuel bed was described as one of heating, softening, and coking of the coal, accompanied by burning of the distilled gases and partial fusion of the ash to form clinkers. Coke masses, or "trees," usually break down and burn automatically.

Discussing operation of a stoker, Mr. Cross said correct air control insures economy, smokeless burning, maintenance of a dependable fuel bed, and other desired operating conditions. A low damper setting is advisable, and the readiest check on a proper air adjustment is the color of the flame, which should be orange to yellow rather than smoky red or almost white.

The speaker quoted prices in the Indianapolis area in comparing cost of stoker heat using bituminous coal with other forms of domestic heating, adding that similar comparisons for other parts of the country would show the same relative economy.

4,141 Stokers Retailed During April

WASHINGTON, D. C.—Sales of domestic and industrial stokers for April, as reported by the Bureau of the Census, Department of Commercial, totaled 4,141 units, 38% under April, 1937 sales, but still well ahead of the 3,335 units sold in the same month of 1936.

April sales are slightly over the March total of 3,882 units sold, indicating that the industry will enjoy its third big year. Sales in the first four months of the present year total 13,241 units, compared to 18,013 units sold in the same period of last year.

Uniform Free Service Considered By Group

CINCINNATI—Formulation of a standardized program on free service and parts guarantees has been holding the attention of the Greater Cincinnati Stoker Association during the past few months, according to B. J. Toerner, secretary.

Any policy adopted by the group must, of necessity, be approved by the Stoker Manufacturers Association, in order that a uniform guarantee and service schedule may be used in the Cincinnati area, and supported by the manufacturers, Mr. Toerner said.

The Cincinnati association is recommending 90-day free service, and one-year guarantee on parts as the basis for a national program in the industry.

Wisconsin Oil Burner Adds Line Of Stokers

MADISON, Wis.—The Wisconsin Oil Burner Co., manufacturer and distributor of the Wisconsin oil burner, has added a line of stokers being manufactured for the local firm for sale under the Wisconsin name. The firm's office and plant is at 1134 Regent St. here.

Fire-King Corp. Appoints New Distributors

INDIANAPOLIS—Stoker distributors recently appointed by the Fire-King Corp., a subsidiary of Sinker Davis Co. here, include:

Wagner Plumbing & Heating Co., Kalamazoo, Mich.; McKee White Corp., Minneapolis; and The Wayne Specialty & Plumbing Supply Co., Detroit.

Economies Found In Using Stoker With Conditioner

READING, Pa.—Economies effected by the use of an air-conditioning unit in connection with a stoker-fired hard coal burning boiler are reported by Charles C. Wolfe here.

The Wolfe home in Muhlenberg Park contains 39,000 cu. ft., consisting of eight rooms, two baths, and a two-car garage. The cost of heating the building with an anthracite stoker, including the cost of year-around hot water, was $75, Mr. Wolfe reports.

Steam generated in the boiler is piped to a heating coil in the conditioner above the boiler, which heats, humidifies, and filters the air. Control of the conditioning unit is by a room thermostat, and control of the domestic hot water supply is by means of an aquastat.

The anthracite stoker supplies coal to the boiler, and removes the ash to sealed containers in the furnace room.

Milwaukee Stokol Dealers Form Association

MILWAUKEE—Stokol dealers in Milwaukee have formed an organization to be known as "Stokol Dealers of Milwaukee," according to an announcement by John Pennau, manager of the Stokol-Wisconsin Co., Oshkosh, Wis.

R. F. Mudliger, oldest Stokol dealer in Milwaukee in point of service, has been elected chairman of the new association.

Kol-Master Introduces New Domestic Model

OREGON, Ill.—Entrance of the Kol-Master Corp. into the competitively priced domestic stoker field has been announced with the introduction of the company's new "Challenger" model.

The new stoker, while altered in appearance from the balance of the Kol-Master line, is complete with a dial-set combustion control, reverse-flight feed screw, horizontal feeder plates, and has the same motors as the deluxe line.

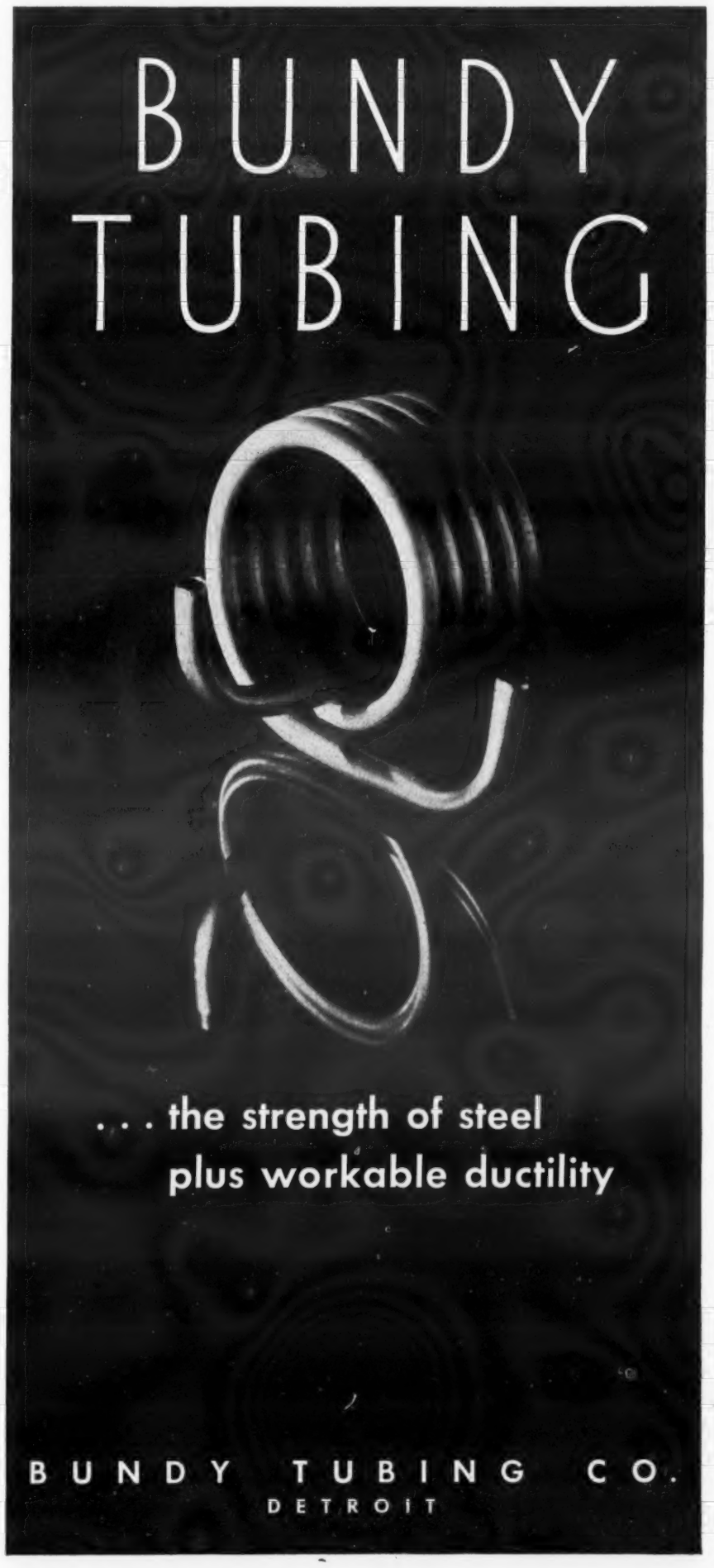
A hooded compartment is provided for gear box, motors, and control equipment.

The "Challenger" has a 22-inch hopper, claimed by officials of the company to be the lowest on the market, giving clearance under any standard fire-box door. It is centered on the feed-screw and holds 300 lbs. of coal.

The stoker is of steel construction throughout, with the exception of the retort and dead plates, which are used in place of the usual refractory hearths.

Engineers of the company claim that this construction eliminates excessive temperature in the vicinity of the retort, and makes it practical to use special one-piece tuyeres which virtually do away with windbox siftings.

Burning capacity of the stoker is from 6 to 40 lbs. per hour, said to be adequate for any domestic application, including two-family buildings.



Installation Methods

Causes Of 'Hunting' In Operation Of Thermostatic Expansion Valves And Suggested Remedies

By A. F. Hoesel, Chief Engineer, Peerless of America, Inc.

HUNTING, in the present instance, is the term used to define the operating condition of a thermostatically controlled expansion valve, which periodically overfeeds and underfeeds refrigerant to the cooling unit served by the valve.

If the hunting condition is of wide variation, the so-called frost line will swing back and forth for a considerable length of the suction line.

A simple operation analogous to that of the operation of a thermostatically controlled expansion valve, can be exemplified by a long pipe line (representing the cooling coil), an operator controlling a water (representing the refrigerant) valve (representing the thermal valve) at one end of the pipe, and an observer (representing the temperature bulb) at the other end of the pipe and reporting over a telephone (representing the capillary tube between the valve and bulb), to the valve operator as to the amount of water flowing out of the end of the pipe.

'TELEPHONIC' ORDERS

At this point, in order to make the analogy similar to the problem of superheat control, we shall assume that a certain definite amount of water should flow out the observer's end of the pipe, and that the valve operator has no means of knowing how much water is flowing except by the telephonic orders given by the observer.

Assume the observer, noting no water issuing from the pipe, telephoning that fact back to the valve operator: The valve operator opens the valve, and water starts to flow. Since it takes some time for the water to reach the observer's end, he, in turn, becoming impatient, retelephones the valve operator who now opens the valve wide.

Finally the water has a heavy flow out of the pipe end, and the observer 'phones back to close down the water flow as the discharge is too great. The valve operator proceeds to close down the valve, but, since the pipe line contains a large amount of water under high velocity, there is still too much water discharging.

Finally the water stops discharging and the observer frantically telephones that fact to the valve operator, who in turn reopens the valve. In this manner it can be seen that, without some common agreement between the observer and valve operator, the system can never be brought to the desired equilibrium. It will periodically overfeed, then underfeed.

VALVE SIZES

Now, if the valve is of such size that it can feed only a slightly greater quantity of water than the desired amount of discharge and if the actuating stem is finely threaded (both being analogous to valve orifice size and low pressure build-up superheat controlling springs, respectively), it is evident that the desired operating equilibrium may be readily attained.

On most installations, severe cases of hunting are readily perceptible because of wide gauge pressure variations in the suction line.

Yet, multiple installations have been noted in which the underfeed of a particular valve was masked by the overfeed of another valve. As the suction gauge pressures were practically constant, the erroneous conclusion might be reached that the valves were operating perfectly.

There can be no logical difference of opinion in respect to the ill effects of hunting. It results in reduced total capacity of the refrigerating system, and is generally accompanied by variation in the cooled compartment temperatures.

FREQUENT CAUSE

One of the common causes of expansion valve hunting is the use of a valve having an orifice much too large for the particular amount of refrigerant which the cooling unit is capable of vaporizing.

Theoretically, every increase or decrease of cooling unit size should be accompanied by an increase or decrease, respectively, of the valve orifice. Practically, this variation of size must be reduced to the smallest possible number, because it would be impossible to stock valves with a great multiplicity of orifice sizes.

In order to reduce, to its lowest minimum, the number of different orifice sizes, it becomes necessary to so design and construct these thermostatic expansion valves that there is a minimum of moving parts in frictional contact.

It is also necessary to have the superheat controlling springs of sufficiently low pressure build-up that small variations in superheat are accompanied by comparatively wide variations in valve opening. In other words, the valve movement should be easy, so to speak.

During laboratory tests of thermostatic expansion valves, we have deliberately exchanged standard low pressure build-up superheat controlling springs, with springs having high pressure build-up, and found that the valve hunted severely. Replacing the low pressure build-up springs practically eliminated the hunting.

MAXIMUM CAPACITY

Experiments with valve orifices indicate that, for best operation with minimum hunting, a valve orifice should be selected with a maximum capacity not more than twice the vaporizing capacity of the cooling unit.

While the foregoing subject matter relates to hunting as a function of a poor thermostatic expansion valve, it may not, in all instances, be the fault of the valve. An excellent thermostatic expansion valve may develop a severe case of hunting if the temperature bulb is not properly placed.

One of the rather common faults inducing hunting is shown in Fig. 1, where the suction line from the cooling unit leads upward.

In a case like this, if the valve orifice size is not very carefully selected to balance with the cooling unit vaporizing capacity, and not greatly in excess of the capacity thereof, the valve tends to periodically overfeed and then underfeed.

SUPERHEATED STATE

Finally, unvaporized refrigerant enters the suction line and reduces the temperature of the temperature bulb, which in turn throttles the expansion valve. Now, since vapor is being generated within the coil, it enters the suction line, in a superheated state, and tends to bubble through the refrigerant liquid in the vertical leg of the suction line.

Since the amount of refrigeration required to remove the superheat from the vapor passing from the coil and into the suction line is comparatively small; and also, since the rate of heat input into the suction line is likewise comparatively small, we find that a column of refrigerant is practically suspended in the vertical leg for comparatively long periods of time, and thereby tends to continuously decrease the expansion valve feed.

I have actually seen conditions such as this, where the suction line leg was frosted and the first half of the coil circuit was frosted, while the remaining half of the coil circuit, immediately adjacent the suction line, was completely defrosted.

During certain heat exchanger experiments, I made up an assembly such as shown in Fig. 2; and placed the temperature bulb in the position shown in "A," intending to sub-cool the refrigerant liquid, before it enters the expansion valve, to its lowest possible point.

ERRATIC OPERATION

In order to reduce suction line sweating, after the heat exchanger, I naturally adjusted the thermal expansion valve to a very high degree of superheat. It was surprising to note the very erratic operation which occurred: the job cycled consistently in the following manner:

(1) The entire coil would frost up; (2) the heat exchanger would then start frosting up; (3) the suction pressure would then steadily drop and finally the entire coil defrost; and (4) after a period of approximately 10 minutes the heat exchanger would start defrosting and the coil start frosting again, from which point it proceeded again as above.

By leaving the temperature bulb in the position "A," and reducing the valve orifice size, I was enabled to make the job operate correctly. This phenomena naturally intrigued me. I then placed the temperature bulb in the position shown in dotted lines at "B," and selected the original large-size orifice. Obviously, I now had to decrease my superheat adjustment, and then found that the job again operated as satisfactorily as before, with the reduced orifice size.

HIGH SUPERHEAT

At the conclusion of this experiment, and others of the same type, it was definitely established that hunting is aggravated with a high superheat adjustment and, conversely, minimized with a low superheat adjustment. This is especially true of valves having orifices of much larger size than necessary.

In many cases, it is absolutely necessary that suction lines lead vertically from the cooling coil. And, in such cases, it is well to use a suction line connection and tempera-

(Concluded on Page 15, Column 1)

Frequent Cause Of Expansion Valve 'Hunting'

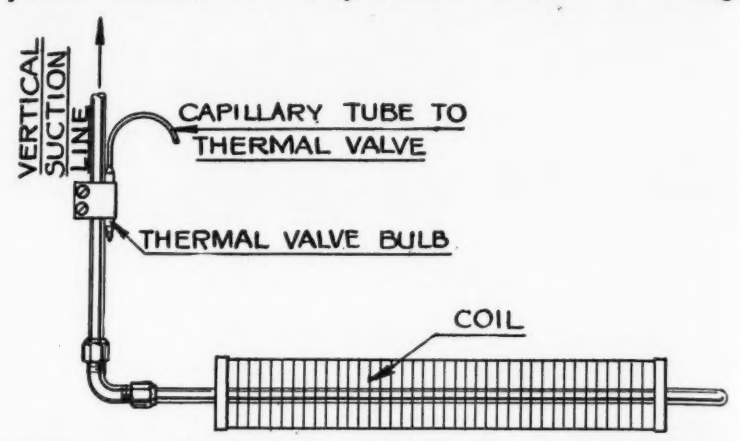


Fig. 1—When the suction line leads upward like this, "hunting" is induced and the expansion valve will periodically underfeed and overfeed.

Low Superheat Required In 'Sub-Cooling' Setup

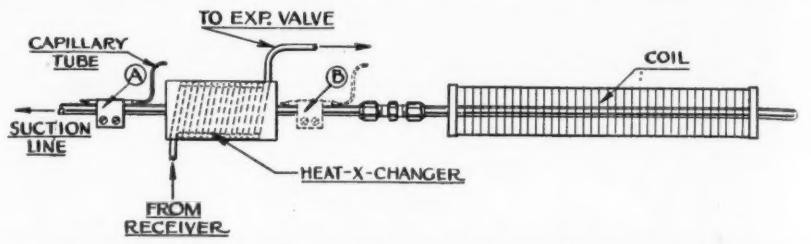


Fig. 2—With bulb in position 'A' and high superheat adjustment, coil and suction line frosted up; with bulb in position 'B' and low superheat adjustment, operation was satisfactory.

Solution For Vertical Suction Line Jobs

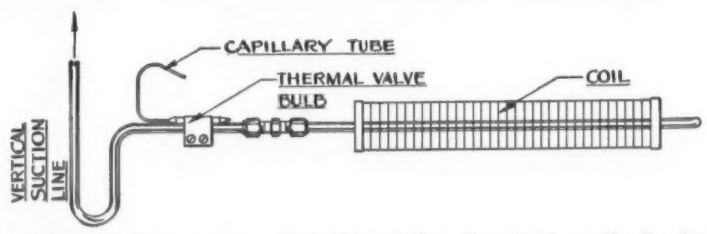


Fig. 3—Where it is necessary that the suction line lead vertically from the cooling coil, installation of the thermal valve bulb in this fashion is recommended.

P.D.Q.

. . . *THINGS* happen fast these days, and keeping up with competition is a real job. It comes down to giving the best service quickest, which is easier to do when you stick to Virginia Smelting Company Refrigerants. Our high-geared distribution set-up, well known for its efficiency and promptness, is equipped to handle the increasing demand for the newly-expanded Virginia Line of Quality Refrigerants.

EXTRA DRY ESOTOO
V-METH-L
METHYLENE CHLORIDE

VIRGINIA SMELTING CO.
WEST NORFOLK, VA.

MERCHANT & EVANS CO.
Phila., Pa., U.S.A. Plant at Lancaster, Pa.

Anaconda Copper
Refrigeration Tubes

THE AMERICAN BRASS CO.
FRENCH SMALL TUBE BRANCH
General Offices Waterbury, Conn

There's an
M•S•A INDUSTRIAL
GAS MASK
DESIGNED
EXPRESSLY FOR YOUR
GASEOUS HAZARD!

M.S.A. Industrial Gas Masks provide *complete* protection against ammonia, methyl chloride and sulphur dioxide—using the *smallest size* canisters that pass U. S. Bureau of Mines requirements . . . the smallest size that *insures* safety in high emergency concentrations. ● Investigate these considerations—they're more important than price. Check into wearing comfort and durability, too. You'll find—as the majority of mask users have—that an M.S.A. Industrial Gas Mask is your best buy. *Let us prove it with an actual demonstration.*

MINE SAFETY APPLIANCES COMPANY
Braddock, Thomas and Meade Streets, Pittsburgh, Pa.
District Representatives in Principal Cities

Stripping Finned Coil For Bulb Ends 'Hunting'

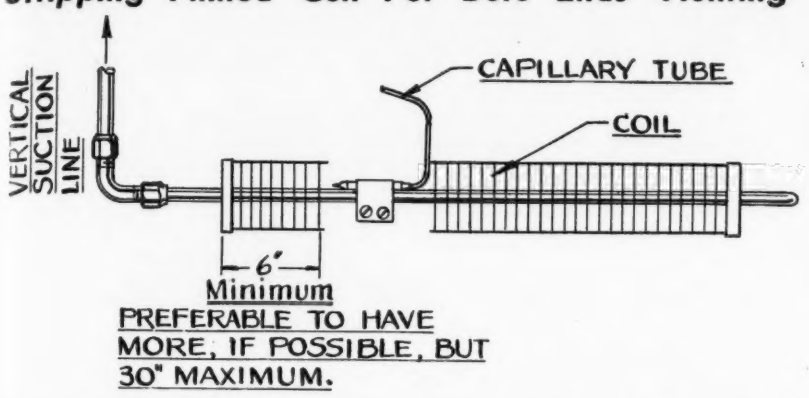


Fig. 4—Another method of placing thermal bulb—that of stripping off part of coil fins—where the suction line must run vertically.

Causes Of 'Hunting' & Suggested Solutions

(*Concluded from Page 14, Column 5*)

ture bulb position as indicated in Fig. 3. It will be noted that the temperature bulb is sufficiently remote from the possible refrigerant liquid trap, in the vertical leg, to be practically unaffected thereby.

As an alternate, and if the cooling unit is of the type having fins individual to the refrigerant tube, resort may be had to stripping off enough fins to provide a bare tube space for the temperature bulb, adjacent the outlet end of the coil as shown in Fig. 4.

Insto-Gas Corp. Designs Torch For Light Work

DETROIT—Insto-Gas Corp. has just announced a new type torch especially designed for light brazing, electrical soldering, sheet metal soldering, and copper pipe fittings up to ¾ inch in diameter. The torch produces a brush-type blast flame ranging from 3 inches long and ⅜ inch in diameter to 8 inches long and ⅝ inch in diameter.

Known as the No. 2, the torch provides temperatures up to 2,500° F., the manufacturer claims. It is also said to eliminate the danger of burned spots so frequent with the high-temperature, concentrated type of flame, which result in faulty fittings which are expensive to locate and repair.

The new torch, says the company, will not blow out in the wind, and produces a clean flame without grease, soot, or smoke. A folder on the product has just been issued by the company.

Airo Supply Co. Issues Mid-Season Catalog

CHICAGO—Airo Supply Co., 2732 N. Ashland Ave., refrigeration and air-conditioning supply jobber, has released its 1938 mid-season catalog of air-conditioning and refrigeration parts, tools, and supplies.

Twelve new pages have been added to the catalog, making it the largest ever issued by this company. Chicago seals, Gilmer belts, Arco fittings, and Kerotest valves are among the new items added to the line. Following the policy inaugurated last year, list prices only are shown throughout.

Air-conditioning or refrigeration dealers and servicemen may obtain copies by writing to the company.

Prestole Devices Bought By Detroit Harvester

DETROIT—Business of Prestole Devices, Inc., a company which for the past two years has been engaged in the manufacturing, marketing, and licensing-to-manufacture of sheet metal fastening devices for the household appliance industry as well as for the automotive and sheet metal working fields, has been acquired by Detroit Harvester Co., manufacturer of automotive parts and farm implements, according to Harry L. Pierson, president of the latter firm.

Some manufacturing operations are continuing at the Prestole plant here, while certain others are being transferred to Detroit Harvester's Dura division at Toledo. Harold W. Kost, former Prestole president, has been made head of Detroit Harvester's Prestole division.

New Cover-All Eyeshield Announced By Jackson

DETROIT—A cover-all eyeshield, made in three types for blow-torch work, gas cutting, and general maintenance welding, has been announced by Jackson Electrode Holder Co.

Consisting of a light headgear and an attached assembly holding a lens frame and two side protection members, the eyeshield is claimed to provide wide vision and to eliminate irritation of the nose bridge.

Entire assembly can be pushed up on the forehead when not needed, and lens frame swivels to adjust lens angle.

Harnischferger Bulletin Describes 'Smootharc' Welding Electrodes

MILWAUKEE — Complete and specialized information on Smootharc welding electrodes, as well as considerable additional information on welding electrodes in general, is included in Bulletin R-5 recently issued by Harnischferger Corp., 4400 W. National Ave., manufacturer of P&H-Hansen welders, as well as the Smootharc electrodes.

The bulletin contains spar tests, procedure sheets, and numerous suggestions for welder users and operators. This information is said to be applicable regardless of the material to be welded.

MORE SALES—THE NEW PEERLESS COMFORT CONDITIONER

PEERLESS COMFORT CONDITIONER SHOWING ADJUSTABLE-DIRECTIONAL AIR FLOW GRILL

This new Peerless Comfort Conditioner is the outstanding unit for economical summer comfort in offices, homes, shops, and similar applications. It is a "small edition" of the regular large capacity ceiling type air conditioning unit, incorporating High Dispersion Cooling Surface, the sensational new Peerless development—a pressure type blower for maximum air delivery and projection—Keratin filters, and many other features not ordinarily found in units of this type. The Peerless Comfort Conditioner is available in capacities of from one to five tons, water or direct expansion coils.

THE NEW PEERLESS AIR CONDITIONING PRODUCTS CATALOG IS NOW AVAILABLE. WRITE THE NEAREST PEERLESS FACTORY FOR YOUR COPY.

PEERLESS of AMERICA, Inc.

ESTABLISHED IN 1912 AS THE PEERLESS ICE MACHINE CO.

Main Factory—General Offices
515 West 35th Street
Chicago

New York Factory
43-20 34th Street
Long Island City

Pacific Coast Factory
3000 S. Main Street
Los Angeles

BUY PEERLESS FOR PERFORMANCE

MAKES Floating Ice

Beyond COMPARISON

PELCO gives the buyer twice as much—that's why it's beyond comparison as a profit-maker for you. Any place selling bottled beverages is a prospect for PELCO with its enormous hourly capacity. PELCO makes its own floating ice automatically as needed and gives in addition a roomy refrigerator compartment below . . . requires no more installation than plugging it into a light socket. PELCO makes profits for the user—operates on a few cents a day—that's why it's profitable for you to sell.

PELCO is a clean, sweet, manufacturing job that lets you make a profit and KEEP it. CASH IN on the Super-powered PELCO NOW—write for all the facts. Address Desk A-68.

PELCO Electric BEVERAGE & BEVERAGE-FOOD COOLERS

Refrigeration Division
PORTABLE ELEVATOR MFG. CO.
BLOOMINGTON, ILLINOIS
In Canada, UNIVERSAL COOLER CO. of CANADA, LTD. BRANTFORD, ONTARIO

THE INDUSTRYS DOMINANT LINE

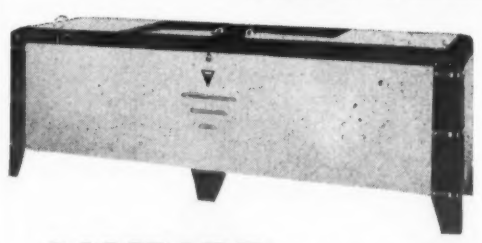
If Koch equipment is not already being sold in your territory, write TODAY for information about the Koch franchise. There is still room in the Koch organization for additional distributors.

The Koch line is COMPLETE. It includes all types and sizes of commercial refrigerators and display cases, both standard construction and welded steel.

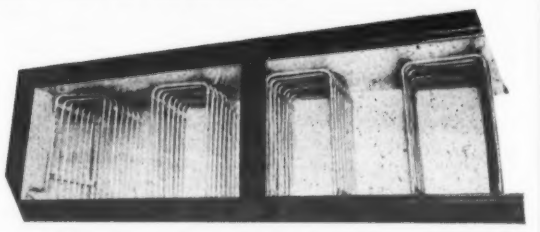
KOCH REFRIGERATORS NORTH KANSAS CITY MISSOURI

ONLY KOCH CAN GIVE YOU BOTH

THE IDEAL SPEED COOLER



Compartments
Capacity
Fast Cooling



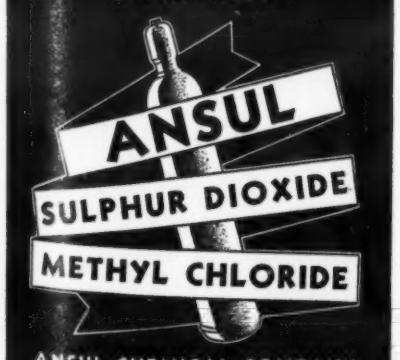
COMPARE against anything on the market for compartments, capacity and fast cooling.

Sturdy construction, beautifully streamlined. Stainless steel lids and tracks. Fits any bar. Built in three sizes: 6 ft., 18 cases; 7 ft., 21 cases; and 8 ft., 24 cases capacity. Three cases of 12 ounce bottles to each compartment.

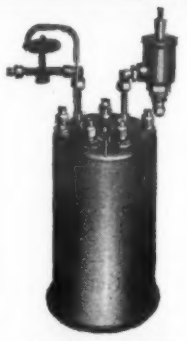
CASH IN on the "hottest" money maker in the industry. The beverage cooler sensation of the year. Some territories still available.

IDEAL BEER COOLER CO. 1500 No. Broadway, St. Louis, Mo.
Manufacturers of all kinds of Liquid Coolers

MOST Convenient A HANDY SIZE FOR EVERY NEED



ANSUL CHEMICAL COMPANY
MARINETTE, WISCONSIN



Cools Quick! Cools Right!

Cools beverages instantaneously because the refrigerant contacts the coils directly (fastest method with the least temperature lag known). Has *positive* temperature control; perfect foam control. Low operating costs. See your jobber or write us for literature.

COLTROL D-X

Commercial Coil & Refrigeration Co.
457 N. Artesian Ave., Chicago, Ill.

Ranco CONTROLS PREFERRED 5 to 1

RANCO—five to one! That's the ratio that tells the story. Five out of six refrigerator thermostat replacements are Ranco controls. And in some markets the ratio is as high as **ten to one!**

There is a Ranco jobber near you with a complete stock of Ranco controls. Rely on him for **dependable** replacements that mean quick easy work—complete customer satisfaction—**and profits you can carry to the bank!**

Ranco INC., Columbus, Ohio, USA

Attitude Of a 'Logical Liberal' Suggested By Ruthenburg as an American Solution To Labor Problems

In this talk, given before a group of veteran employes of the Farrel-Birmingham Co., Mr. Ruthenburg discusses employer-employe relationships from the viewpoint of management, labor, and the consumer.

His discussion should offer many suggestions and constructive thoughts to those who are faced with problems of industrial and employe relations in any form.

By Louis Ruthenburg, President, Servel, Inc.

SPEAKERS frequently refer to an assignment as a privilege. I doubt if any speaker has ever felt himself more honored in being permitted to address an audience than I feel as I stand before you this evening. This sense of privilege is induced by the knowledge that I address an unusual group of veterans who wear the medals of honor—yes, and perhaps the wound stripes—that have accrued to them during terms of service ranging from 25 years to almost 60 years.

Such service records reflect great credit, not only upon their holders, but upon the corporation with which they have so long been associated.

The veteran employe has given lasting evidence of such qualities as emotional balance, tenacity of purpose, and unusual ability in his chosen work. Of even higher order is his proven ability to cooperate effectively with his fellow man. That one quality distinguishes the civilized man from the savage. In our ability to cooperate effectively one with another—group with group—lies our only hope for the future.

The corporation to which such veteran employes have given their unfaltering allegiance is marked as a business of worth and stability—as one in which management has achieved an understanding of the fundamental truth that sound human relationships must form the foundation of every permanent and profitable business.

Such enlightened management explodes the creed of those disciples of discord who contend that the interests of industrial management and of industrial worker are necessarily antagonistic. Indeed your management has demonstrated and has conclusively proven that the interests of men and management are mutual and that workmen, management, customer, and owner all benefit in the degree to which they serve each other's interests.

The Farrel-Birmingham veterans assembled here tonight represent, in the aggregate, 5,355 years of experience in one enterprise. Those years of slowly accumulated experience are a priceless asset to your company. The record carries the implication of high honor for each of you. It also indicates a responsibility for leadership that is particularly compelling in these days of confusion and alarm when old beacons have grown dim, when ancient landmarks seem to be gone with the wind and when even the eternal verities are questioned by the callow and the uninformed.

4 MAIN GROUPS

We now live in an age of "isms." From overseas we hear much of Naziism, Fascism, Communism. At home we hear endless chatter about radicalism, socialism, liberalism, conservatism, and toryism. Much of this talk about "isms" is very confusing because few of us can agree upon definitions. Let's take a look about us and see if we can find light.

Is it not reasonable to think of the people about us, regardless of party affiliations, as belonging to four essential groups? Two of these groups are pretty hopeless. They are the Tories and the Moochers. The Tories are the die-hards—the ultra-conservatives who live and think in terms of the dead past. Probably the Tories are least imporant in number and in influence.

ARMY OF 'MOOCHERS'

The Moochers, on the other hand, are a vast and formidable army. They are those whose allegiance can be bought with various coin—relief payments, jobs, political preferment, appropriations and authoritative support for pet projects.

In recent years the Moochers have been exploited politically in manner without precedent in this country. So greatly have they influenced our national development that many of our people have become so discouraged and cynical as to believe that the Moochers have inherited the earth and that we must look forward to national bankruptcy induced by taxes levied for the purpose of controlling the Moocher vote.

Before we reach this defeatist conclusion and thereby admit that the American political philosophy, after surviving all the vicissitudes of the last 150 years is now fulfilling the dire prophecy of Lord Macaulay, we may well examine the remaining groups, both of which may be loosely described as Liberals. Both groups are actuated by high ideals—want to see progress—desire the more abundant life for their fellow men—believe in research and experiment. Neither group looks upon our national institutions as static and unchangeable things. Neither is guilty of ancestor worship. Nor can their votes be had by coercion or purchase.

EXAMINE METHODS

The two liberal groups are pretty well in agreement as to **objectives.** They differ principally as to **methods** by which the objectives are to be attained.

The Logical Liberal is not stampeded into enthusiasm by the mere eloquent announcement of an acceptable objective. He wants to know how we're going to get there and when he discovers that the proposed method has frequently failed or that it assures, by its inherent processes, complete failure in attaining the objective, he definitely opposes the project and promptly becomes the target of scorn and epithet from Moocher and Emotional Liberal alike.

The Logical Liberal has learned through study and experience that two and two inevitably add up to four; that the millennium cannot be introduced overnight by clever legislation. He understands the "inevitability of gradualness."

The Emotional Liberal is relatively uninformed, not logical, is a believer in miracles. He learns only by very recent, personal experience. Upon being disillusioned he feels very bitterly toward his betrayers. He rivals "the woman scorned" in exceeding "Hell's furies." As a matter of fact, millions of our women voters are enlisted among the Emotional Liberals.

'EMOTIONS' IN CONTROL

There is reason to believe that the balance of power lies not with the Moochers but with the Emotional Liberals.

Now as among these four groups I am sure that most of us like to think of ourselves, not as Tories or Moochers or as Emotional Liberals, but as informed and logical liberals. If our views, as enlightened and logical liberals, are to prevail; if the American way of life is to continue, we are confronted with the imperative responsibility for converting the fallacious beliefs of our unthinking, emotional friends to concepts of common sense with proven principles and American traditions.

It is very obvious that the American way of life cannot continue in this industrial age when American industry is attacked and injured by inexperienced, emotional, unrealistic leaders of the people. These attacks upon American industry mean that every American citizen is confronted by a vital threat directed toward his personal welfare and his standard of living.

MISUNDERSTOOD

For some years American industry has suffered from such treatment. It is a tragic fact that no subject seems to be so generally misunderstood as the broad subject of industrial relations, and there is little hope of relief from our present difficulties until a very general understanding of this vital subject is achieved.

Shall we take a look at the subject of industrial relations through the eyes, not of the Tory or the Moocher or the Emotional Liberal, but through the eyes of enlightened and logical liberalism with a perspective established by years of practical experience?

The enlightened and logical liberal knows that profit and loss statements, balance sheets, sales accomplishment, productive efficiency of industry are by-products of industrial relations. They are indicators of management's ability to deal with human beings. As Merle Thorpe recently said, "Business is not an abstraction. It is flesh and blood, men and women; not machines, but human beings with spirits and emotions subject to dejection or elation."

WHAT ARE 'INDUSTRIAL RELATIONS'

When you hear the expression "industrial relations" your thoughts naturally turn to the relationship between industrial employes and industrial management because for several years that particular relationship has been constantly and emphatically stressed to the exclusion of other equally important relationships.

It is becoming increasingly apparent that the most sincere friends of labor must consider industrial relationships in a much more comprehensive sense, if labor is to achieve the more abundant life and if the condition of those millions who lack a decent standard of living is to be improved.

In this particular discussion of industrial relations it is my purpose to consider the broad aspects of industrial relations but with the welfare of the industrial employe uppermost in mind.

MANY GROUPS AFFECTED

Let us turn to a brief consideration of these several groups whose interests must be served if the employes of American industry are to achieve lasting benefits. Management must recognize service to the consumer as its first duty in the process of serving the interests of the people on the payroll. The stockholder must be served; otherwise the people on the payroll will suffer.

Industrial relationships must also comprehend service of the interests of sales intermediaries — distributors, jobbers, merchants, dealers, and their sales forces. The interests of these several groups are closely related, mutual interests and the prosperity of any one of the groups can be preserved only by maintaining a delicate balance among all groups. This equilibrium can be insured only in the degree to which the interests of all groups are fairly served.

In reality, we cannot think of ourselves as members of definite groups. Like troupers of the old school, who "doubled in brass" and appeared now on the stage and then in the band, we adopt the consumer attitude as we buy, the employe attitude as we work, the investor attitude when we choose a savings bank, purchase an insurance policy, a bond, or a stock.

Most of us are members of at least two of these groups. Some of us are members of all. We are all consumers from the day of our birth to the day of our death. Most of us are employes—people on the payroll. Many of us belong to the great army of sales intermediaries, and those of us who participate in the ownership of business as stockholders or partners constitute, in this country, a large percentage of the population.

CONSUMERS & PRICES

As consumers we are greatly concerned if prices are rising. Perhaps we have recently decided against purchasing certain things that we want because our incomes will not buy as much as we expected they would. Our reactions as consumers naturally have much to do with our attitude as employes. We want more money, not only to meet increasing costs but constantly to improve our standard of living.

If we belong in the group of sales intermediaries we are constantly concerned with the attitude of consumers—how can they be induced to buy more? As salesmen and merchants we want to see increased buying power and optimism. We want to see prices reduced, but we also want to see our own commissions and mark-ups increased. As partners and stockholders we are worried by the decline in the stock market. Some have paper losses, those less fortunate actual losses.

OTHER GROUPS STRIKE?

As consumers, employes, salesmen, or owners we all know that when conditions become sufficiently intolerable we may refuse to cooperate. This is the inalienable right of any group. Buyers' strikes may exert economic pressures just as effective as strikes of labor. Failure of one group to cooperate frequently causes other groups to strike.

During the past year we have wit-

(*Concluded on Page 17, Column 1*)

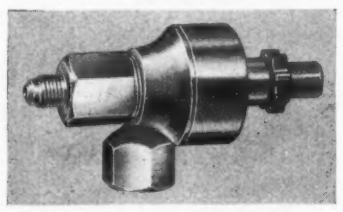
THE BUYER'S GUIDE

Equipment and Compressor sales go together. Sell both on one contract.
The Sherer Franchise Offers:
★ COMPLETE LINE OF CASES, COOLERS AND BOXES.
★ NEW EQUIPMENT constantly under development, opening new fields for compressor sales.
★ LAYOUT DEPARTMENT—layouts for store modernization programs without obligation.
★ ADVERTISING—Sherer Equipment advertised by mail and in leading trade publications.

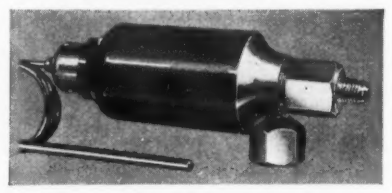
SHERER-GILLETT CO. MARSHALL MICHIGAN
Manufacturers of Refrigerated Display and Storage Equipment

PROFIT WITH *Sherer* CASE *and* COOLER FRANCHISE
Write for catalog and franchise details, mentioning territory desired

AMINCO EXPANSION VALVES
Automatic — Thermostatic



No. 1582 No. 1583 (flanged)



No. 1585 No. 1586 (flanged)

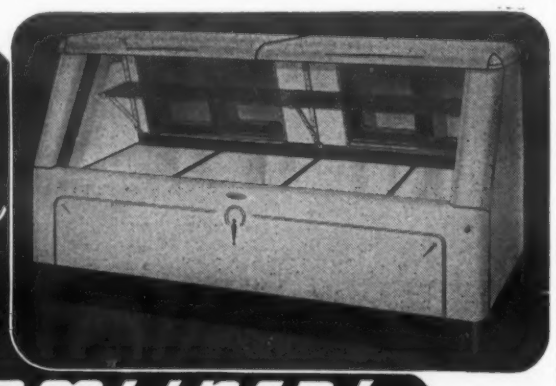
Automatic Type "F" Expansion Valve is made with removable needles and seats. Cap of live rubber may be removed, replaced and remain absolutely tight. Used with Sulphur Dioxide, Methyl Chloride or Freon, without change of needle or seat. This valve is giving superb service at low cost on thousands of installations.

Thermostatic Type "G" with its removable seats, needles and power elements is easy to service. The alloy needle floats freely without friction. Power elements to correspond with refrigerants used in system. This valve is strongly endorsed for rugged service.

For Sale At Your Favorite Jobber

AMERICAN INJECTOR COMPANY
1481-1491 Fourteenth Avenue DETROIT, MICHIGAN

NEW *Percival* STREAMLINER!



DISTRIBUTORS WANTED!

Write for details of Profit-making franchise. Complete PERCIVAL line meets *every* requirement of the modern food store.

Modern styling . . . Beautiful design . . . Outstanding construction . . . Economical operation! TOMORROW'S case, presented TODAY! Get the jump on other distributors by selling this modern marvel of electrical refrigeration. Its NEW style and NEW features give you exclusive selling advantages! NEW PERCIVAL FINANCE PLAN HELPS YOU SELL.

C. L. PERCIVAL COMPANY
DES MOINES . . . . . IOWA
52 YEARS OF SERVICE 1886-1938

Specify **PENN**
AUTOMATIC CONTROLS AND SWITCHES FOR RECOGNIZED RELIABILITY
Write for Catalog
PENN ELECTRIC SWITCH CO.
GOSHEN, INDIANA

PAR CONDENSING UNITS
28 MODELS
1-4 TO 20 H. P.
WRITE FOR FREE CATALOG
MODERN EQUIPMENT CORP.
DEFIANCE, OHIO, U. S. A.

Dayton
V-BELTS
Silent, vibrationless, dependable, long-lasting. Powerful grip prevents slippage. A nearby distributor carries a complete stock for appliances and machines.
THE DAYTON RUBBER MFG. CO., DAYTON, OHIO
World's Largest Manufacturer of V-Belts

"Superior by name Superior in Quality"
SUPERIOR VALVE & FITTINGS CO.
500-37TH ST. PITTSBURGH, PENNA.
Manufacturing a complete line of DIAPHRAGM PACKLESS VALVES, MANIFOLDS, ACCESSORIES and FITTINGS for the Refrigeration and Air Conditioning Industry.
"FORBES PRODUCTS"

Salesmen, Investors and Consumers Have An Interest In Labor's Choice Of A Collective Bargaining Agency

(Concluded from Page 16, Column 5)

nessed widespread restlessness and acts of non-cooperation on the part of labor, and now our financial reporters make frequent mention of strikes of capital. It must be apparent that all of the groups interested must feel that their rights are being respected if we are to enjoy a balanced economy, and if the condition of the worker is to be improved.

It follows, therefore, that if any one of these vitally important groups insists upon obtaining an advantage that can be had only at the expense of other groups, such shortsightedness can result only in failure of the pressure group to attain its own objectives.

If the stockholder exacts profits so high that the interests of consumer and worker are jeopardized, he destroys the value of his investment and kills the goose from which he tried to squeeze too many golden eggs. By the same token, when labor assumes that the only limit to its compensation is measured by the amount of force it can apply, labor loses the cooperation of consumer and capital and fouls its own nest.

WAGES A YARDSTICK

Higher wages and shorter hours are the yardsticks by which we measure improvement in the worker's condition in this country. If we are to think realistically about living standards we must think about real wages —what money will buy—rather than in terms of money wage which is meaningless unless it is interpreted in terms of buying power.

Measured by the criteria of real wages and working hours, we have made remarkable progress in improving the condition of the common man in this country. The real wage of the American workman has increased consistently and substantially until his living standard is the highest ever achieved in the world's history. Comparisons with living standards in both the democracies and dictatorships of Europe indicate that the American way of life has brought incomparably greater material benefits than those attainable under other ways of life.

MACHINES BETTER CONDITIONS

These great improvements in the condition of the American workman have resulted from a well defined, constructive, evolutionary process that should be quite generally and clearly understood. By supplementing man power with mechanical power, by the invention of time saving machinery, by learning more effective working relationships, the productive capacity per unit of man power has been multiplied. Goods have been produced at lower cost. Markets have expanded. The national income has been increased.

As the national income has increased, our workmen have received rich dividends in the form of increased real wages and reduced hours of labor. There is every indication that the process can be continued unless it is subject to arbitrary interference.

WRONG METHODS

The objective of the more abundant life is universally applauded. But the methods which are now attempted will not only fail to accomplish the objective but will of necessity defeat its attainment and inevitably bring about reduced living standards. This should be as readily understood as the simplest arithmetic equation.

We cannot have more than we produce. In the degree to which production is restricted we have less to divide. Except in a most temporary sense, the money wage is meaningless because its buying capacity, in the presence of restricted production, must be reduced by rising prices faster than the money wage can be increased.

It has been said repeatly and impressively that the minimum wage for a proper standard of living in this country should be $2,500 annually, and that the American family, in order to live the more abundant life, should have a minimum income of $3,600.

But such figures mean absolutely nothing unless we consider their buying power, and, if prices increase faster than income, it is conceivable that $2,500 will ultimately buy less of the world's goods than $1,000 does today. To prove this we need only refresh our World War memories.

CAN'T RESTRICT OUTPUT

We might just as well agree that the minimum wage should be $5,000 annually, for the real problem is unchanged: how can we increase the national income so that we shall have more to divide? Certainly it will not be done by restriction of output, because the only way we have ever found of increasing national income has been by ever increasing output per unit of manpower.

The principle of collective bargaining is generally accepted as a means of improving the lot of the working man. The Wagner law, provides, in effect, that employe groups may engage in collective bargaining through agencies of their choice. Consumers, investors, and other groups that form industry's partnership with labor will be very definitely affected by this choice of a bargaining agency.

WHO SHOULD BARGAIN

Is it not reasonable—yes, essential —that consumers, investors, and those engaged in the sales process, as well as labor, should be interested in considering the qualifications of the bargaining agency?

Before labor selects its bargaining agency, should it not be counseled by its partner groups to make a critical examination of the proposed bargaining agency by asking such pertinent questions as these:

1. Is the proposed bargaining agency a responsible organization. If it is found that the proposed bargaining agency, after entering into a contract with a responsible corporation, has been unable to prevent interruption of production by some hundreds of unauthorized strikes within a few months after signing the agreement, the responsibility of that organization is questionable. Mr. Knudsen, president of General Motors, recently said, "We have instances in which the grievances of a dozen men have caused 5,000 men to lose three or four days' pay." Would you recommend such a bargaining agency to your friends on industry's payroll?

NOT THE COMMUNISTS

2. Is the proposed bargaining agency essentially Communistic? If we find that the agency is endorsed by the Communist Party U. S. A., and that there are many avowed Communists among its policy-making officers, one might seriously question whether an agency with such a background is qualified to serve the ultimate interests of American workmen who presumably do not want to see the American form of government replaced by a dictorship of the proletariat.

3. Has the proposed bargaining agency established a record of violence and lawlessness? Most American workmen are law-abiding citizens, and, wishing to have their lawful rights respected, do not care to become members of an organization which attempts to gain its ends by violent and lawless methods.

4. Are the closed shop and check-off known to be objectives of the proposed bargaining agency? Under closed shop conditions all employes must be members of a given union, and under the check-off, they cannot escape the payment of dues because the employer is required to deduct dues payable to union officials before issuing pay checks. American citizens have always objected to coercion and to taxation without representation. The closed shop and check-off would seem to constitute a joint action of coercion on the part of the employer and the union.

5. Do the representatives of the proposed bargaining agency have a sympathetic understanding of the problems of the business in which the employes and other groups have a joint interest?

6. Do they realize that the ultimate interests of the workers cannot be served unless the equitable rights of customers and stockholders are also served?

7. Does the bargaining agency embrace the notion that national living standards can be improved by arbitrary increases in wages, arbitrary shortening of hours, without corresponding increases in productive efficiency? Has the proposed bargaining agency encouraged restrictions of production?

WORKERS WILL SUFFER

Collective bargaining is consistent with our democratic ideals, but many years of education may be required before its agencies can be developed to serve effectively the interests of the working group by bringing about a higher living standard. Perhaps this ideal is impossible of accomplishment.

We shall all suffer while this experiment runs its course—the working group most of all—and in the degree to which bargaining agencies insist upon arbitrary increase in wages, arbitrary reduction of hours and restriction of output, and in the degree to which interruption of production develops from resultant disputes.

The loss of labor's earnings in strikes cuts two ways. The immediate loss is extremely serious, but the destruction of general business activity and of public confidence is vastly more expensive. It is said that 4,500,000 man days were lost last June through labor disputes. At the rate of five dollars per day that means an unnecessary loss of $22,500,000 in the month's wages for workman directly involved in strikes.

When this is multiplied by the wages lost in suppliers' and customers' plants, losses incurred by distributors, dealers, and salesmen; resultant losses created through the many other ramifications of modern industry, the grand total represents a hideous loss in the nation's buying power—a serious reduction in the living standard. Who can say that the current recession of business is not directly traceable to the economic pressures and fears induced by those same costly disputes.

Taxes also add enormously to current costs, and thereby reduce the living standard. In 1937, Servel, Inc., for example, paid taxes amounting to almost 40% of the entire payroll. Hidden taxes are said to cost the $18 per week man, without property, 12 cents on the dollar, reducing his wage to $15.84.

J. A. Ritchie, president of the Fifth Avenue Coach Co., of New York, estimates that the total taxes paid by his company and by employes jointly, exclusive of indirect taxes paid by the company, amounted last year to $741.11 per employe.

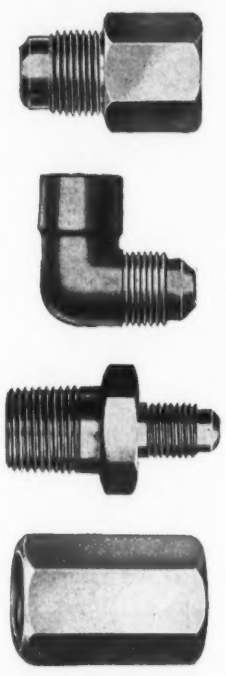
As a nation we can achieve great and lasting prosperity, if we, the people, are sufficiently interested to insist upon the application of proved and tried methods for attaining those objectives which we all so readily accept. Those objectives will not be attained by personalizing and damning our devils, by fomenting class antipathies, by arbitrary increase of the money wage, by arbitrarily shortening the hours of labor, by restriction of production or by collective bargaining through irresponsible and economically ignorant agencies.

Gentlemen, as enlightened and logical liberals, as honored veterans of Farrel-Birmingham, are you not justified—yes, under compelling obligation—to accept and spread the following precepts:

1. Recognizing the fact that all elements in our social structure must be adequately served if any one element is to receive permanent benefit, we must progress in a spirit of constructive cooperation, "with malice toward none," avoiding the development of group antipathies.

2. Let us not only support constructive social and economic **objectives** but let us resolve that **methods** adopted for attaining such objectives shall be sound and in conformity with the American tradition.

3. The American way of life, though far from perfect, has fostered the welfare of the common man far more effectively than any culture the world has known. Let us, therefore, strive toward perfecting our traditional way of life and toward preventing its abandonment.



Seepage-Proof
FITTINGS
"Built Right To Stay Tight"

Every style and size of forged flared tube fitting for the refrigeration industry is available from standard stock at Commonwealth.

Thousands of semi-standard patterns enable us to quickly furnish any desired variation in pipe and tube ends.

Special fittings made to order.

Commonwealth fittings are correctly designed, carefully machined, and tube seats are protected in shipping.

25 years of service to the industry.

COMMONWEALTH BRASS CORPORATION
Commonwealth at Grand Trunk R. R.
DETROIT, MICH.

SUPPLIES • PARTS • TOOLS
Refrigeration — Air Conditioning
Oil Burner — Stoker
Write for Our New Catalog
VINCENT BRASS & COPPER CO.
100 North Second St., Minneapolis, Minn.

You Can Install
SPORLAN
THERMOSTATIC EXPANSION VALVES
with Confidence!

ALCO
Engineered Refrigerant Controls
—For Highest Evaporator Efficiency
Alco Valve Co. St. Louis, Mo.

EASILY
Available
DISTRIBUTORS
IN EVERY LOCALITY
ANSUL
SULPHUR DIOXIDE
METHYL CHLORIDE

TYLER
WELDED STEEL Refrigerators
TYLER Treasure Island Sales Fixtures

This year, more than ever, the *Tyler* line is the popular line in the commercial refrigerator field. Now complete with Top Display, Double Duty, Delicatessen, Reach-In cases and Walk-In coolers. Sizes and types to take care of every prospect. Welded steel construction and other exclusive features make TYLER

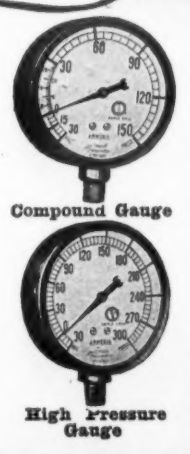
THE FAST SELLING LINE
Tyler's quantity production methods have made possible a new standard of values that gives you unbeatable sales ammunition. Write now for newest literature and dealer details.
TYLER FIXTURE CORP. Dept. E, NILES, MICH.
NEW YORK OFFICE: 601 W 26TH ST CHICAGO OFFICE 1863 W OGDEN AVE

"I WON'T BUY A GAUGE WITHOUT THE RECALIBRATOR!"

That has been the attitude of many service men since the RECALIBRATOR feature was incorporated in Marsh Gauges, Thermometers and Recorders. Experience and laboratory tests have shown that when a bourdon-tube instrument is knocked out of adjustment the mere removing and re-setting of the pointer at one point on the scale, does not correct it throughout the entire range. The Marsh RECALIBRATOR gets at the heart of the trouble, however. By simply turning the RECALIBRATOR screw (see illustration) the distortion of the bourdon tube is compensated for and this re-calibrates the instrument throughout its entire range.

Gauges and dial thermometers with this feature cost little more than the ordinary kind. It is an exclusive Marsh feature.

Ask for the big refrigeration catalog covering this and other Marsh betterments.



Compound Gauge

High Pressure Gauge

JAS. P. MARSH CORPORATION
2067 Southport Avenue CHICAGO, ILL.

MARSH Refrigeration Instruments
GAUGES—THERMOMETERS—RECORDERS—MERCURY SWITCHES

THE BUYER'S GUIDE

For Immediate Sale

1000—1/3 and 1/2 H. P.

FRIGIDAIRE

"Model K"

CONDENSING UNITS

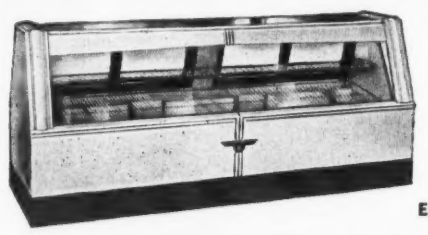
$12.50 COMPLETE LESS MOTOR

All removed from running installations—All operating but not overhauled.

CRATING or CASING $2.50 additional

FEDERAL REFRIGERATOR CORPORATION ■ 57 EAST 25TH STREET NEW YORK, N. Y.

THE NEW 1938 C-B KOLD-O-MATIC



Display Cases & Refrigerators Fulfill Constantly Increasing Demands For

→ MORE DISPLAY
→ MORE EYE APPEAL
→ PROPER TEMPERATURE
→ PROPER HUMIDITY
→ PROVEN CONSTRUCTION
→ PROVEN QUALITY

EXCLUSIVE TERRITORIES AVAILABLE FOR QUALIFIED DISTRIBUTORS

THE CINCINNATI BUTCHERS SUPPLY CORPORATION
CINCINNATI, OHIO

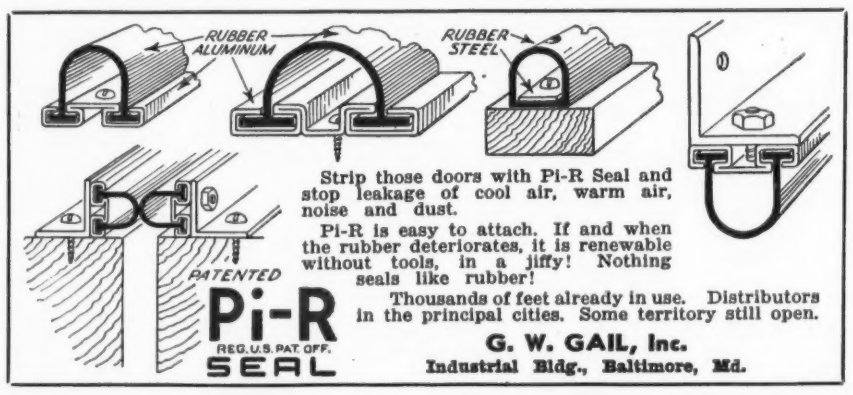
MELCHIOR, ARMSTRONG, DESSAU CO.

300 FOURTH AVENUE • NEW YORK, N. Y.

BROOKLYN
NEWARK
ROCHESTER
BUFFALO
BOSTON
PHILADELPHIA
HARRISBURG
BALTIMORE
WASHINGTON

Refrigeration • Heating
Air Conditioning

PROMPT SHIPMENT FROM LARGE STOCKS FOR THE RUSH SEASON



Strip those doors with Pi-R Seal and stop leakage of cool air, warm air, noise and dust.

Pi-R is easy to attach. If and when the rubber deteriorates, it is renewable without tools, in a jiffy! Nothing seals like rubber!

Pi-R REG. U.S. PAT. OFF. SEAL

Thousands of feet already in use. Distributors in the principal cities. Some territory still open.

G. W. GAIL, Inc.
Industrial Bldg., Baltimore, Md.

Get yours from Gilmer FREE

1938 Gilmer Belt Catalog
"America's Belt Bible"

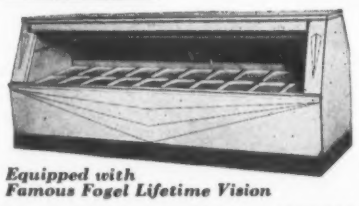
Lists more makes, more models, more sizes than any other f. h. p. belt catalog ever issued!

144 pages 4450 models 135 makes

Send for yours today

L. H. GILMER COMPANY, Tacony, Philadelphia

YEARS OF TROUBLE-FREE SERVICE



Equipped with Famous Fogel Lifetime Vision

The framework — insulation — porcelain finish—coils—hardware—display glasses—and every other part of a Fogel case is engineered and constructed for lifetime dependability and service. This guarantees satisfaction for the owner and goodwill for the distributor.

Inquire today about our full line of refrigerated food storage and display equipment.

Interesting distributor proposition to qualified firms.

FOGEL • REFRIGERATOR COMPANY 16th & Vine Sts., Phila., Pa. • SINCE 1899

7 COMPLETELY STOCKED WAREHOUSES

REFRIGERATION AND AIR CONDITIONING

WRITE FOR OUR CATALOG ON YOUR LETTERHEAD
BRANCHES: NEW YORK, CLEVELAND ST. LOUIS and 3 CHICAGO BRANCHES

PARTS.

THE HARRY ALTER CO., 1728 SO. MICHIGAN AVE., CHICAGO, ILL.

Pleasantaire Shown In Demonstration Room

BALTIMORE—To impress visitors at the Better Housing Show here last month with the way in which a Pleasantaire window-sill cooler reduces the temperature of a room, Gerry Eser, of the oil burner division of Hochschild, Kohn & Co. department store, built a room of wallboard, installed a Pleasantaire unit, and invited public inspection.

The room was 10 feet long and 8 feet high, was constructed of 2 x 4's for the frame and beaverboard for the walls on both sides of the uprights, and for windows had two sheets of celluloid with air space between.

On display just outside the demonstration room were a complete Pleasantaire room cooler unit and a unit without cabinet showing the actual mechanism.

Self-Contained Model Tested On 'Tour'

SYRACUSE, N. Y.—A Carrier three-ton self-contained air-conditioning unit has been returned to the factory here after successfully undergoing tests under every weather condition offered in the United States—from 34° F. in Denver to 85° F. in Dallas, from sea level in New York City to 5,200 feet in Denver.

Accompanying the unit was Engineer E. A. Bailey, who took it 9,000 miles, visiting New York City, Chicago, Kansas City, Dallas, Atlanta, Denver, Sacramento, Los Angeles, Portland, Ore., and Butte, Mont. During his city-to-city dashes, Mr. Bailey was held up in Alabama for 24 hours by a flood.

Purpose of the tour, in addition to demonstrating the unit to Carrier dealers, was to check its portability and its performance under varying weather conditions.

Malay States Railway Buys More Cooling

SINGAPORE — The Federated Malay States Railway has appropriated $275,000 to purchase additional air-conditioned coaches, reports the U. S. Trade Commissioner's office here. Two restaurant and five first-class coaches have been ordered in England for delivery this year.

As soon as the equipment arrives, the railway anticipates having enough equipment to operate air-conditioned coaches between Singapore and Penang. The two air-conditioned coaches which arrived last year have been operating on the Kuala Lumpur-Penang run.

Kelbur Co. To Equip Railroad's Hospital

LITTLE ROCK, Ark. — Contract for air conditioning the Missouri Pacific hospital here has been awarded to Kelbur Air Conditioning Co., Chrysler Airtemp distributor in 32 Arkansas counties, according to George D. Kelley, president.

Mr. Kelley also has announced appointment of J. B. Spraggins, former Arkansas Power & Light Co. employe, as manager of Kelbur Co.'s ventilating department.

B-D-R Engineering To Handle Carrier

KANSAS CITY, Mo.—The B-D-R Engineering Corp., with offices in the Midland building here, has been appointed distributor in northwest Missouri and northeast Kansas for Carrier air-conditioning equipment, reports R. M. Dugan, president. The company formerly was Frick distributor.

New Baltimore Outlet For G-E Named

BALTIMORE—Automatic Heating & Cooling Systems, 4110 W. Garrison Ave., has been appointed distributor in this territory for General Electric summer and winter air-conditioning equipment, automatic heating, and oil and gas furnaces.

Where Air-Conditioning Systems Were Installed In Detroit In 1937

(Compiled by Detroit Edison Co.)

Classification	Make	Hp.
Apartments		
Philby Apartments	175-Ton Well Water	47
Banks		
State Savings Bank (Ann Arbor)	Carrier	30
Commonwealth-Commercial	Frigidaire	20
Beauty Shops		
State College of Beauty Culture	Ilg	15
Campbell Beauty Salon	Carrier	5
Bowling & Recreation		
Henry Ford Recreation Bldg.	Carrier	200
Argyle Recreation	Westinghouse	20
Confectioners, Dairy Stores		
W. J. Brown Creamery Co.	York	15
Fred Sanders, Inc.	Airtemp	10
Fred Sanders, Inc.	Airtemp	10
Fred Sanders, Inc.	Airtemp	25
Fred Sanders, Inc.	York	15
Ira Wilson & Sons Co.	York	10
Ira Wilson & Sons Co.	York	10
Fanny Farmer Candy Co.	Westinghouse	1½
Fanny Farmer Candy Co.	Westinghouse	1½
Goody Nut Shops	Ilg	7½
Cigar Stores		
Frank Ryan Cigar Store	Carrier	15
Hall Brothers	Airtemp	15
Lafayette Cigar Store	Frigidaire	3
Cigar Store—Jos Campau	Ilg	15
Tegge-Jackman Cigar Co.	Airtemp	3
Manheim Cigar Store	Frigidaire	3
Samuels Cigar Co.	Curtis	3
Clubs		
Detroit Club	Airtemp	20
Department Stores		
Sam's Cut Rate, Inc.	Carrier	40
Sam's Cut Rate, Inc.	Carrier	50
Federal Department Stores, Inc.	Westinghouse	120
Crowley-Milner Co.	Well Water	30
Neisner Bros., Inc.	Carbondale	25
Neisner Bros., Inc.	Carbondale	30
Neisner Bros., Inc.	Carbondale	30
Neisner Bros., Inc.	Carbondale	50
Ernst Kern Co.	Airtemp	15
Park Linen Co.	Airtemp	5
Ned's Auto Supply Co.	General Electric	7½
Drug Stores		
Shapero Drug Co.	Frigidaire	15
Cunningham Drug Co.	Ilg	15
Cunningham Drug Co.	Ilg	15
Cunningham Drug Co. (Ypsilanti)	Ilg	15
Cunningham Drug Co.	Ilg	10
Cunningham Drug Co.	Ilg	10
Shain Drug Co. (Birmingham)	Carrier	5
Furs		
Annis Furs	Carrier	15
Thill Furs	Lipman	10
Diamond's Style Center	Ilg	½
Robert Furs	Carrier	3
Hospitals & Clinics		
Detroit Osteopathic	Frick	20
Dr. Louis J. Gariepy	General Electric	10
Children's Hospital	Airtemp	10
Dr. E. H. & R. F. Fenton	Kelvinator	3
Dr. Harold W. McCaughrin	Airtemp	3
Woman's Hospital	Carrier	30
Paul Monger Clinic	Frigidaire	3
Paul Monger Clinic	Airtemp	3
Dr. A. F. Anderson	Brunner	3
Veteran's Hospital	York	15
Jennings Hospital	Airtemp	1
Grace Hospital	Airtemp	1
Hotels		
Dearborn Inn	Carrier	32½
Statler Hotel	Wittenmeier	150
Fordson Hotel	Carrier	5
Jewelry		
Meyer Jewelry Co.	Airtemp	20
Enggass Jewelry Co.	Carbondale	10
Glick Watch Co.	York	5
Square Deal Miller	Frigidaire	15
Rose Jewelry Co.	Universal	20
Boren Jewelry Co.	Curtis	2
Max's Jewelry Co.	Carrier	7½
Simons & Clark	Frigidaire	5
Laboratories & Test Rooms		
W. M. Chace Co.	Westinghouse	1
Frederick Stearns & Co.	Frigidaire	10
Men's Wear Stores		
Whalings, Inc.	York	10
F. G. Clayton & Co.	Carrier	60
Bond Clothing Co.	Frick	75
Le Clair, Inc.	Kelvinator	5
Finsterwald Co.	Westinghouse	7½
Mortuaries		
Harold C. Burrell	Norge	5
John P. Hallinan	Carrier	1

(Concluded on Page 19, Column 1)

Where Air Conditioning Was Installed In Detroit (Cont.)

(Concluded from Page 18, Column 4)

Classification	Make	Hp.
Optical Stores		
Kindy Optical Co.	Lipman	5
Kindy Optical Co.	Lipman	5
Square Deal Miller	Frigidaire	1
Square Deal Miller	Carrier	5
Offices & Buildings		
Detroit Wax Paper Co.	Carbondale	15
Detroit Wax Paper Co.	Frigidaire	6
E. A. Pierce & Co. (Brokers)	Carrier	25
Mulkey Salt Co.	Airtemp	3
Great Lakes Steel Co.	Airtemp	3
Eaton Mfg. Co.	Airtemp	3
Jam Handy Picture Service	Airtemp	15
National Automotive Fibres Co.	Airtemp	3
WXYZ Offices	York	2½
Peninsular Metal Products Co.	Airtemp	1
Hi-Speed Co.	Frick	15
Wolf-Detroit Envelope Co.	Westinghouse	25
Airtemp Construction Co.	Airtemp	10
Brenkert Light Projection Co.	Frigidaire	10
Butzel, Eaman & Long (Attorneys)	Carbondale	25
Greenfield's (Office)	Frigidaire	5
Square D Co.	Carbondale	60
Woodall Industries	Westinghouse	15
Dallas Kelsey, Inc.	Frigidaire	1
Detroit Edison Service Bldg.	Carrier	600
Peninsular Grinding Wheel Co.	Westinghouse	25
Champion Spark Plug Co.	Westinghouse	15
Holley Carburetor Co.	Airtemp	20
Chrysler Corp. (Plating Dept.)	Airtemp	25
Chrysler Corp. (Offices)	Airtemp	51
B. C. Wills & Co.	Lipman	10
Restaurants, Cafeterias & Bars		
General Motors Cafeteria	Frigidaire	60
Brass Rail	Carrier	20
Arcade Bar & Grille	York	10
Pointe Royal Casino	Frigidaire	5
Hedge's Wigwam	Simplex-Well	5
Wasum's Hofbrau	Frigidaire	10
Buhl Building Coffee Shop	York	10
Club Ackmur	Carrier	15
Chevrolet Cafeteria	Frigidaire	20
Harris Lunch	Airtemp	9
Tasty Hamburger	Frigidaire	3
Holden Inn	Lipman	3
Webster Hall Bar	Kelvinator	7½
All Steak Hamburger	Lipman	5
Wood's Inn	Airtemp	25
Cozy Corner Lunch	Carrier	20
Johnson's Diner	Brunner	15
Joe Bathey	Airtemp	6
Shoe Stores		
Thom McAn Shoe Co.	Carrier	5
Burt's Shoe Store	Westinghouse	35
Wise Shoe Co.	Ilg	15
Baker Shoe Co.	Westinghouse	10
Thom McAn Shoe Co.	York	5
Flagg Bros.	Airtemp	3
Theaters		
Trenton Theater	Simplex-Well	9
Beverly	Baker (Gas Engines)	120
Beacon Theater	Ice	10
Whittier	Frigidaire	50
Redford	Frigidaire	50
Vogue	York	75
Riviera	Simplex-Well	5
Westown	Westinghouse	120
Palmer Park	Carbondale	65
Adams Theater	Westinghouse	50
Washington (Royal Oak)	Westinghouse	80
Farnum	York	75
R. K. O. Uptown	York	140
Warfield	Carrier	80
Highland Park	Well Water	22
DeLuxe	Simplex-Well	25
Majestic	Simplex-Well	20
Women's Wear		
D. J. Healy Shops	Carrier	5
Wade's Millinery	Carrier	5
Florice Gown Shop	Kelvinator	5
Peggy Ann Shop	Westinghouse	7½
Walters, Inc.	Kelvinator	10
Jasens Dress Shop	Curtis	2
The Paris	Curtis	7½
DeWan's, Inc.	Frigidaire	5
Allen's Millinery	Ilg	10
Miscellaneous		
Naval Armory	WPA-Well Water	60
Central Station Residential Systems		
Arthur B. Sonneborn	Westinghouse	2½
Otto Klopsch	Frigidaire	3
Harry Schlanger	Frigidaire	3
K. T. Keller	Airtemp	3
Robert K. Greaves	Airtemp	3
Eugene L. Reason	Airtemp	3
Sidney Allen	General Electric	10
Detroit Ideal Home	Airtemp	3
George P. Caulkins	General Electric	2
A. P. Hascall	Airtemp	3
Morris Sharkstein	Westinghouse	5
Speculative Residences	½-hp. Kelvinator—63	31½
Speculative Residences	1-hp. Kelvinator—7	7
Speculative Residences	1½-hp. Kelvinator—5	7½
Speculative Residences	2-hp. Kelvinator—1	2
Speculative Residences	3-hp. Kelvinator—1	3
Room Cooler Sales*		
Frigidaire	½-hp. Units—13	6½
Frigidaire	¾-hp. Units—25	38
Carrier	¾-hp. Units	35
Standard Air Conditioning	¾-hp. Units	10
Westinghouse	½-hp. Units—6	3
Airtemp	¾-hp. Units	7
York	¾-hp. Units	4
Kelvinator	¾-hp. Units	3
Hercules	¾-hp. Units	3

*Numerous room coolers are included in office, laboratory, clinical, and other applications in the table above. Totals given here represent the balance of unclassified room-cooler sales.

CLASSIFIED ADVERTISING

RATES: Fifty words or less in 6-point light-face type only, one insertion, $2.00, additional words four cents each. Three consecutive insertions $5.00, additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Air Conditioning & Refrigeration News, 5229 Cass Ave., Detroit, Mich.

POSITIONS AVAILABLE

SALESMAN ACQUAINTED with distributors and utilities throughout country will find great opportunity for profit in sale of electric ranges and refrigerators and allied lines at sharply competitive and very attractive prices to these classes of trade. Bonus for volume should mean high earnings. Reply Box 1055, Air Conditioning & Refrigeration News.

POSITIONS WANTED

R.A.C.I. GRADUATE in refrigeration and air conditioning. One year's experience in domestic and commercial refrigeration service; ten years' experience as a machinist; one year shop foreman, machine tool division. LaSalle training in production control methods. Desire work in air conditioning or commercial refrigeration. College graduate; age 40. Box 1053, Air Conditioning & Refrigeration News.

ENGINEER, 10 years' experience in design and development of automatic absorption machines. Air and water cooled, continuous and intermittent types. Available July first. Write Box 1052, Air Conditioning & Refrigeration News.

FRANCHISES AVAILABLE

DISTRIBUTORS WANTED for newly developed, self-contained Midget display refrigerator. The only case listed for less than $300.00. All nationally advertised parts including twin-cylinder compressor. Just plug in and use. Well insulated; porcelain exterior and interior; three shelves. Size 40" wide, 52" high, 28" deep. Easy to sell wherever food is purveyed. Good discount to distributors. Write for literature. CONTINENTAL FOOD STORES EQUIPMENT CORP., 2697 Third Ave., Bronx, N. Y.

EQUIPMENT WANTED

INTERESTED IN purchasing 500 to 1,000 ⅛ and ½ H.P. refrigeration motors—new or used repulsion induction or capacitor type. Also interested in purchasing single or twin cylinder late type household compressors. Any quantity. FEDERAL REFRIGERATOR CORP., 57 E. 25th St., New York City.

REPAIR SERVICE

DOMESTIC CONTROLS repaired: Ranco pencil $1.75, Ranco box $2.00, General Electric $2.00, Tag $2.00, Cutler-Hammer $2.00, Penn $2.00, Bishop Babcock $2.50, Majestic $2.50, Penn magnetic $2.50, G. E. Frigidaire $2.50. In business over 20 years. Our name is our guarantee. UNITED SPEEDOMETER REPAIR CO., INC., 436 West 57th Street, New York City.

CONTROL REPAIR service. Your controls repaired by expert mechanics, with special precision equipment. Supervised by graduate engineers. We stress perfection and dependability before price. One year guarantee on domestic controls. Any bellows operated device repaired. HALECTRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

100% SATISFACTION GUARANTEED—Hermetic rebuilding service. G.E.—Westinghouse—Majestic—U. S. Hermetic—etc. Our success in rebuilding sealed units is founded on these facts—10 years in the refrigeration industry—5 years' concentrated effort on hermetically sealed units. Customers in 37 states had hermetically sealed units rebuilt or exchanged by us in the past year. Complete factory equipment for precision rebuilding. One year guarantee on all rebuilt units. Exchange service available on most makes and models. Write for prices and descriptive literature. REX REFRIGERATION SERVICE, INC., 2226 S. State St., Chicago, Ill.

GENERAL ELECTRIC and Westinghouse hermetic units rebuilt. Guaranteed unconditionally for one year and returned to you refinished like new. Units are entirely disassembled in our large modern shop, tested through every step of production during rebuilding with the most complete test equipment for accurate work, then subjected to exhaustive running tests under actual operating conditions. Each unit measures to exacting standards after rebuilding. Prices $30.00 on General Electric DR-1, DR-2, and Westinghouse; $35.00 on General Electric DR-3. Quotations furnished on other models. Quick service—guaranteed work. REFRIGERATION MAINTENANCE CORP., 365 East Illinois St., Chicago, Ill.

MAJESTIC UNIT Replacements—The only original direct factory Majestic replacements. Guaranteed 18 months in writing. All models $30.00. Immediate delivery from our stock of 2,000 units. Also G. E. and Westinghouse rebuilding guaranteed 18 months from $30.00 up. Largest rebuilders of Hermetics in the world. G & G GENUINE MAJESTIC REFRIGERATOR AND RADIO PARTS SERVICE, 5801 Dickens, Chicago.

BUSINESS FOR SALE

UNUSUAL OPPORTUNITY for capable serviceman. I have a service and installation business for sale at a fraction of its actual value. 100% return on your investment in one year! Estimated on 1936, 1937 and 1938 business. Manufacturer's service and installation contract, averaging $90.00 per month. Two creamery accounts averaging $50.00 per month. Large clientel acquired thru 13 years' service experience. City of 35,000 in southern California with large provincial territory. Write for additional details, now! Box 1054, Air Conditioning & Refrigeration News.

PATENTS

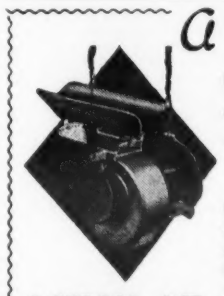
HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

Gov. Moore Vetoes N. J. 'Fair Sales' Bill

TRENTON, N. J.—Legislation banning below-cost retail sales was vetoed here May 31 by Gov. A. Harry Moore, who claimed the so-called "fair sales" bill would raise consumer costs unreasonably. The measure was sought principally by independent grocers, but was so drafted as to apply to all retail business.

Many retailers in varied trades favored the measure as a means of curbing price cutting and "loss leader" evils. It was considered doubtful that sufficient support could be mustered to repass the bill in the legislature over the governor's veto.

THE BUYER'S GUIDE



A Selling and Servicing Opportunity!

THERE'S PROFIT FOR YOU

—When You Spot This Common Trouble

When your customer's cooler doesn't work right—when dead air spots and freezing zones impair foods and the humidity is too high or too low—it's time for you to show him Action-Air System—a patented system of correct air circulation in coolers. Sells itself on a demonstration. Pays for itself out of savings. Makes good profit for you—adds enthusiastic new customers—leads to repeat business. Used in wide variety of applications since 1932. Write for our attractive proposition today.

ACTION-AIR SYSTEM

THE BROWN CORP., 615 Bellevue Ave., Syracuse, N.Y.

Model No. 500-A

"CHIEFTAIN"

QUALITY-BUILT COMPRESSORS and CONDENSING UNITS

All bearings diamond bored. Positive lubrication of parts by newly developed process plus forced feed lubrication in all models.

Sizes ⅛, ⅕, ¼, ⅓, ½, ¾ H.P.

Write for prices

TECUMSEH PRODUCTS CO.

Tecumseh, Mich.

OFFICES

New York
480 Lexington Ave.

Chicago
Room 2258
La Salle-Wacker Building

Detroit Export Department
1002 Palms Bldg.

Los Angeles
122 Mariposa St.

St. Louis
577 Arcade Bldg.

You can make COILS with this new IMPERIAL tube bender!

HERE'S something entirely new in tube benders an Imperial hand tube bender that will not only handle all types of bends but you can easily form round and obround coils with it. Furnished in four sizes for ⅜", ½", ⅝" and ¾" tubing.

Call your jobber and try out one of these new No. 406-F tube benders.

IMPERIAL BRASS MFG. CO., 565 S. Racine Ave., Chicago

No. 406-F Tube Bender

IMPERIAL *Tube Benders*

VALVES • FITTINGS • TOOLS • CHARGING LINES • FLOATS • STRAINERS • DEHYDRATORS

MILLS

COMPRESSORS

for Commercial Use

Mills Novelty Company • 4100 Fullerton Avenue • Chicago, Illinois

HENRY *Dehydra-Strainer*

Combination Dehydrator and Strainer

TYPE 733

WITH ASBESTOS SACK

With dispersion tube. Dehydrant is located inside asbestos sack supported in turn within a fine mesh brass screen. 2" O. D. x 12" long flanged brass shell. Dehydrant capacity 20.5 cu. in. Weight 3⅛ lbs.

HENRY VALVE CO. 1001-19 N. SPAULDING AVE. CHICAGO, ILLINOIS

STOCKED BY LEADING JOBBERS

REFRIGERATION **ACME PRODUCTS** AIR CONDITIONING

"It's better to use ACME PRODUCTS than to try to compete against them."

ACME INDUSTRIES, INC.

JACKSON MICHIGAN